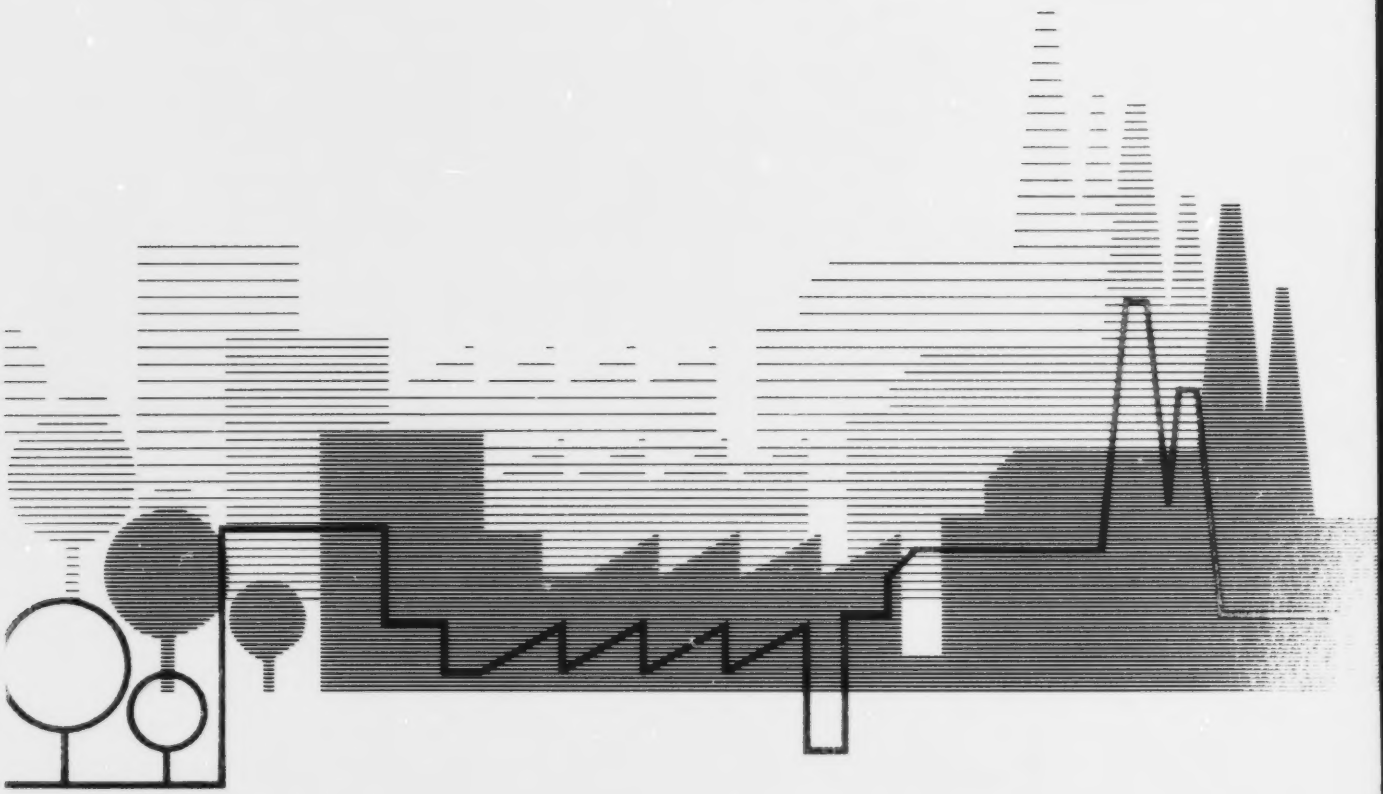
COMMUNITY IMPROVEMENTS SERIES • VOLUME3



Ontario Ministry of Municipal Affairs
Bernard C. Grandmaitre, Minister

# OLDER INDUSTRIAL AREAS

## PLANNING FOR REVITALIZATION

87-01085/

PRIDE
IN YOUR COMMUNITY

The publications listed below are part of an ongoing series that have been developed to assist in the understanding and implementation of Programs for Renewal, Improvement and DEvelopment (PRIDE) in Ontario communities.

Community Improvement Series:
Volume 1 • Commercial Area Improvements: March 1985
Volume 2 • Commercial Facade Improvements: October 1985
Volume 3 • Older Industrial Areas: September 1986

Available from the Ontario
Government Bookstore
Price $7.50 payable to the
Treasurer of Ontario
ISBN 0 7729 1783 3

Research and Special
Projects Branch
for:
Community Renewal Branch
and
Community Planning
Advisory Branch

Consultants:
Inducon Consultants of
Canada Limited,
in association with,
William H. D. Hurst,
Architect

# OLDER INDUSTRIAL AREAS

## PLANNING FOR REVITALIZATION

# Preface

In a report prepared by the Ministry of Municipal Affairs in 1982, entitled, Older Industrial Areas: Strategies for Improvement, a need for renewal activity was identified for established older industrial areas in Ontario communities. That report recommended that, before any type of improvements be contemplated, an economic and planning review be undertaken to determine the market feasibility and scope for local municipal improvement activities.

As a result of that report, the Ministry has prepared this publication to:

- inform you (the municipal official, the industrialist and the public) of the nature of older industrial areas;
- to share our findings about older industrial areas based on six representative municipal case studies;
- to suggest a methodology to evaluate whether or not these areas should continue in industrial use or be allowed to convert to another use;
- to provide guidance on the content of a Development Plan to revitalize these areas and the process to implement the plan.

As well, the report takes the approach that a municipality should consider older industrial areas to be part of the community's land inventory for overall community economic development. These areas may have been traditionally overlooked in the past as suitable industrial locations because attention was focused on the development of new suburban industrial parks.

# Contents


**Preface**

**Introduction** ____ 1
- Older Industrial Areas
- Problems/Deficiencies
- Existing Opportunities
- Municipal Benefits
- Planning and Implementation Process

**1. Begin The Process** ____ 7
- Who's Involved
- Create A Public/Private Commitment

**2. Determine Area Viability** ____ 9
- Sources of Information
- Market Potential (Demand)
- Development Potential (Supply)
- Building Condition and Suitability
- Infrastructure Condition and Capacity
- Land Use
- Summary and Options Report
- Evaluate and Recommend

**3. Decide to Take Action** ____ 21
- Transition Management
- Revitalization

**4. The Development Plan** ____ 23
- What It Is
- Redevelopment Sites
- Functional and Image Improvements
- Municipal Marketing Initiatives
- Industrial Improvement Association

**5. Approve and Implement** ____ 25
- Municipal Planning Provisions
- Public Expenditures
- Long Term Maintenance

**6. Monitor** ____ 29
- Phasing of Infrastructure Improvements
- Maintenance of Industrial Land
- Economic Impact

**Where to Get More Information** ____ 31

**Appendices**

**Appendix A** ____ A.1
- Older Industrial Areas: The Context

**Appendix B** ____ B.1
- Types of Industrial Buildings

**Appendix C** ____ C.1
- Marketing Questionnaire

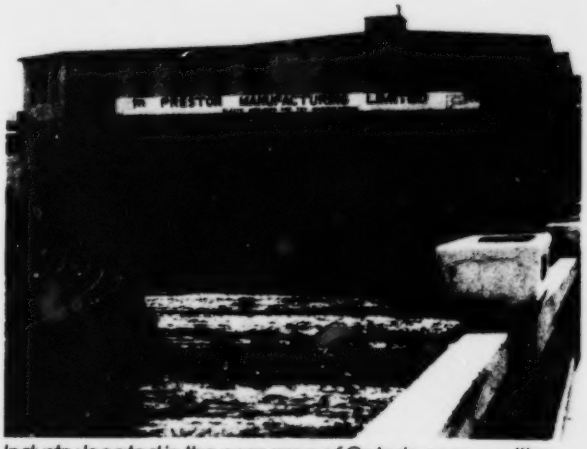
**Appendix D** ____ D.1
- Typical Industrial Real Estate Projects

**Appendix E** ____ E.1
- Urban Design

# Introduction

## Older Industrial Areas

In general, older industrial areas are portions of Ontario cities and towns that developed prior to the advent of planning and development controls. They developed either as greenfield sites on what were then the edges of these communities, or else in the core areas of these same communities. While they contain a variety of industrial uses, they are generally represented by a number of the traditional industrial operations such as tanneries, shoe manufacturers, steel producers, heavy machinery manufacturers, woollen-knitting mills, foundries and machine shops. As some of these industries declined or moved away from these locations, the buildings have been left vacant or reused by other types of industrial operations. In some instances the lands have been rezoned to other land uses and the buildings converted to commercial and/or residential uses.



*Industry located in the core area of Ontario communities —*

*Or in suburban greenfield locations which were eventually surrounded by residential development.*

The markets and manufacturing processes that gave rise to older industrial areas have changed considerably since the areas were first developed. In addition, these areas, which originally were discrete industrial districts, have been encroached upon over time by residential, commercial and other non-industrial uses which now constrain the functioning of these areas for industry.

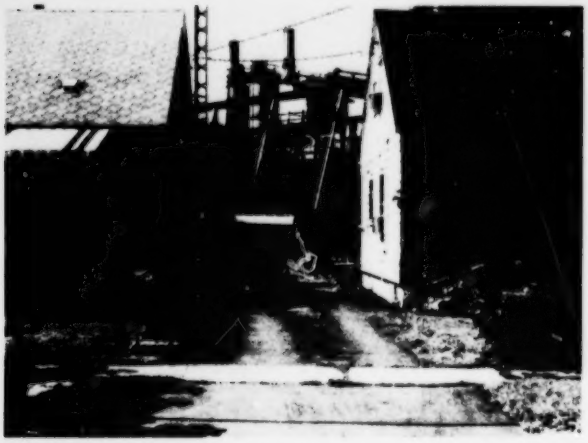
(Appendix A. provides a detailed overview of the trends operative in industrial areas over the last century. It provides the context for those interested readers in the events that have shaped current industrial land use patterns in municipalities.)

## Problems / Deficiencies

A number of problems and deficiencies are found in older industrial areas. They range from those associated with municipal infrastructure to the image and marketing of the areas as places for industry. The following summarizes the types of problems and deficiencies identified by over ninety (90) industrial property owners responding to a series of interviews in six case study municipalities.

- Land use compatibility and conflict
- Municipal infrastructure deficiencies
- Vacant buildings and underutilized space
- Transportation and access problems
- Insufficient off-street parking
- Some structures have little reuse potential
- Property appearance and maintenance
- Market pressure for redevelopment to commercial/residential use.
- Private utility deficiencies ie. hydro, gas
- Little private incentive to maintain the area
- Image as an unattractive location
- Untried markets for redevelopment as industrial use
- Lack of promotion of the area for industrial investment

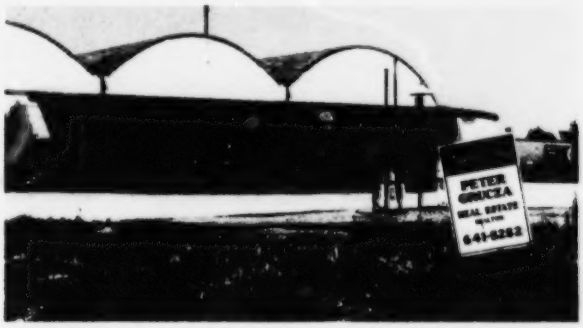
Given these general findings, specific concerns identified are presented as follows under the headings of market analysis, building conditions, municipal infrastructure and land use.



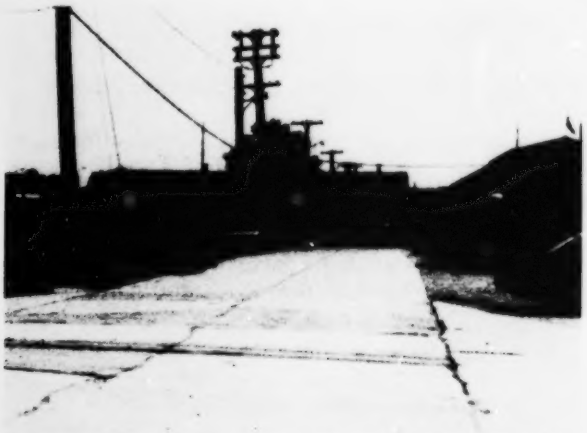
*Unbuffered industrial operations create visual intrusion into residential neighbourhoods.*

*Congested access for large transport trucks caused by narrow road rights-of-way.*

*Older industrial buildings left vacant create an air of neglect.*




*Former warehouse type building has limited use potential for alternate type of industrial use.*



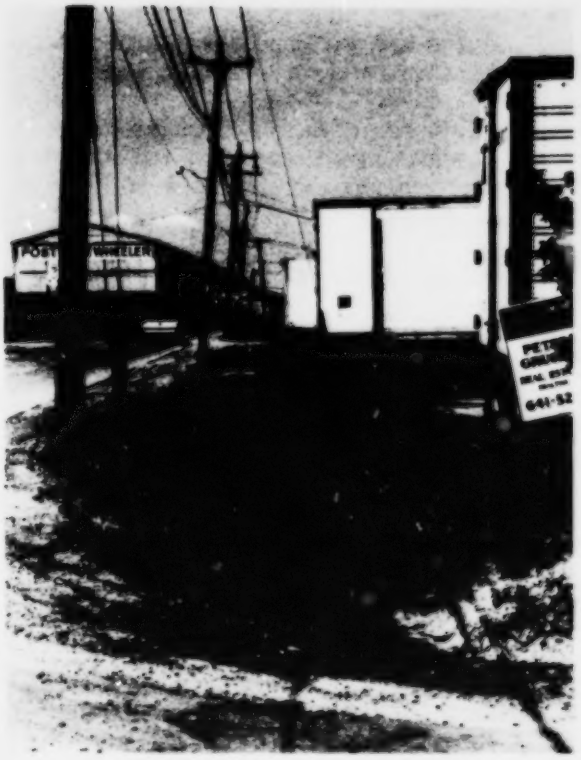
*Lack of sufficient off-street parking adds to congestion on public roadways.*

*Maintenance of outdoor storage areas and fencing is needed.*

*The lack of sufficient capacity in franchise utility systems may inhibit expansion of existing industry in the area.*

*With little public attention to maintenance, there is less incentive for private property maintenance.*

*The areas offer untried locations for new industrial development.*



*Although vacant lands are available in industrial areas, a marketing plan needs to be developed.*

## Market Analysis

- a variety of industries operate in older industrial areas ranging from traditional manufacturers to wholesale, distribution and retail establishments.
- over 45% of the firms have been at their present location for over 25 years.
- manufacturing activities accounted for less than 50% of the total number of businesses.
- some 34% of firms have growing floor space requirements while 66% remain stable.
- the principal reasons given for locating in the area, (excluding historical) are transportation, (55% of firms) and market proximity, (37% of firms).
- major disadvantages cited by firms which affect their operations are infrastructure deficiencies (24% of firms) and area image, (23% of firms).

- new firms choosing to locate in these areas over the last five years were judged to be either stable or experiencing some growth.

- 65% of the businesses expected to continue to use their sites for industrial type activities (manufacturing and warehousing).

## Building Conditions

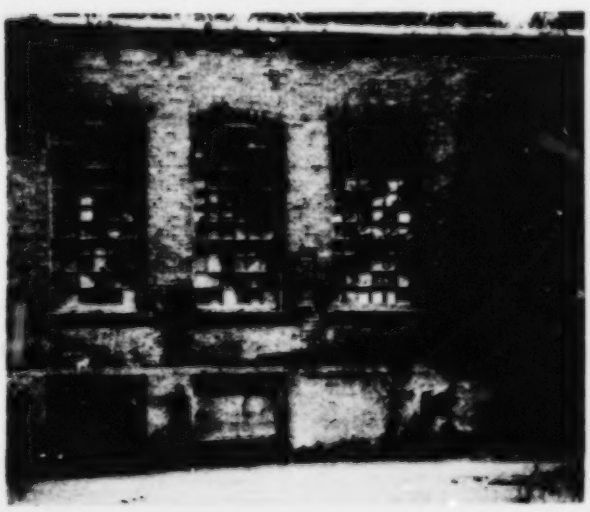
- while a number of types of industrial structures of varying age, size and design were found in the study areas, as a group they are structurally sound for continued industrial use.

- building obsolescence should be viewed as a process and not as an absolute condition, thus improvements can be made on a continuing basis.

- certain structural changes cannot be easily made to some types of buildings, while others can be structurally improved with little difficulty.

- cosmetic improvements can be made to these buildings and surrounding property in order to improve the physical appearance of the properties.

- energy conservation improvements can be made to these buildings and in many cases it is quite necessary that it be done.



*The actual structural condition of the building might be quite good.*

*The condition of surrounding property has an impact on the perception of the area.*

## Municipal Infrastructure

- industries judged the condition of municipal infrastructure to be a major problem in the older industrial areas.

- the condition and width of roads cause the industries operational and safety concerns,

  eg. narrow road rights-of-way present problems for large trucks because the intersection turning radius is too small.

- open culverts or ditches pose operational problems for some industrial activities using truck transport.

- lack of off-street parking on private properties causes congestion on street rights-of-way.

- absence of or poor maintenance of sidewalks and other services such as lighting and transit shelters.

- surcharge overflow in combined sanitary/storm sewers, is a major concern.

## Land Use

- in many cases the properties are built to maximum allowable zoning standards, resulting in no space for expansion.

- many areas are changing character from purely industrial to service commercial/industrial activity.

- because of location there may be some pressure to redevelop lands located central to the core of the community to retail/commercial use.

- land use problems exist at the interface of older industrial areas with adjacent residential uses.

- municipally owned, vacant lands are not well maintained in these areas.

- road patterns and circulation could be improved through resubdivision of large parcels of land found in these older industrial areas.

## Existing Opportunities

The case studies also pointed to a number of opportunities that are found to exist in these older industrial areas.

These areas:

- Represent a significant investment in existing infrastructure that can be improved at minimal cost.

- Account for industrial employment densities equal to those found in suburban industrial parks.

- Contain an existing stock of buildings that is generally in good structural condition and with potential for reuse.

- Offer economically viable locations for service industries that are oriented to local markets.

- Provide opportunities for increased building site coverage that maximizes the use of serviced urban land.

- Contain vacant sites for redevelopment and infill development opportunities.

- Contribute to the tax base of the community.

## Municipal Benefits

These problems/deficiencies and opportunities suggest that the potential for industrial land use change will be greatest in the older, most traditional industrial areas of our communities. As our economy continues to move through a period of structural change, these traditional industrial areas may be given up to other land use activities if no action is taken now to understand the opportunities for revitalization of these locations. Local decision-makers, therefore, need to examine these areas and shape the changes occurring in them for the long term benefit of the community. Older industrial areas need to be considered as key land and employment resources in the community. The future use of these resources should be evaluated from several perspectives to best determine their long term management and to assess their potential to accommodate the economic change currently taking place in the structure of our communities. Industrial area revitalization should be encouraged and implemented on a selective basis, keeping and strengthening the most viable older industrial areas and managing the transition of other less marketable industrial areas to different land uses.

The municipal benefits to be derived from industrial revitalization include:

### Maximizing the use of existing infrastructure

- Municipalities can save on the extension of trunk services to new areas. The relatively minor infrastructure repairs in the older areas are generally less costly than new servicing.

### Public expenditures can stimulate private investment

- Expenditures on public improvements have traditionally had some impact on private investment in downtown areas and residential areas. Revitalization of older industrial areas should share this potential spin-off by providing additional locations for economic development and job creation.

### Retain potential for employment opportunities

- Revitalization of an area should assist in maintaining existing employment levels. While less quantifiable, the degree to which "potential" is maintained to create employment opportunities in such locations may also constitute a net benefit to the municipality in terms of a choice of employment centres.

**Maintain tax base of the area**

- The existing tax base of a community should be maintained and enhanced through public and private improvements to an industrial area if these improvements result in an increase in the community's assessment base for taxation purposes.

## Planning and Implementation Process

The process used to carry out the planning and implementation of revitalization within an older industrial area consists of a number of phases*. These phases are shown diagrammatically in Figure 1. Each of these phases corresponds to a subsequent section of this report.

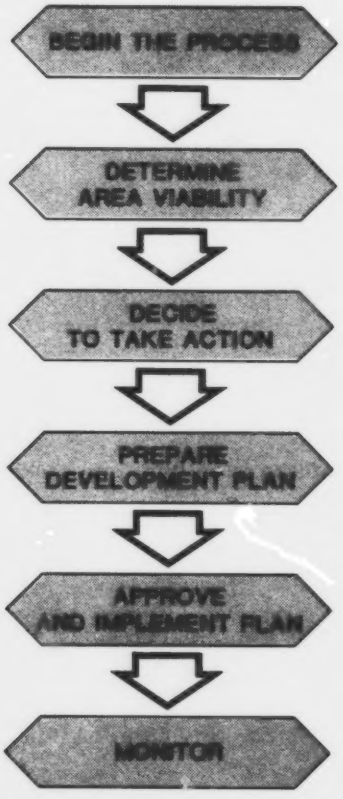



*Figure 1* Planning and Implementation Process

The first section of this report deals with phase one, Begin The Process. At this stage, it is important to obtain the level of public and private commitment necessary to undertake an evaluation of the revitalization potential of the older industrial area in the community. Part of this commitment is the need for the municipal council to commit staff and financial resources to carry out an area study.

The second section presents the list of the economic and planning considerations used to Determine Area Viability and represents essentially phase two of the process. It identifies the data requirements to ascertain the marketability of the area, the development potential, the infrastructure analysis, the assessment of building condition, and the land use issues central to carrying out the evaluation.

Once viability has been evaluated, (both quantitatively and qualitatively), the third section of the report notes the range of decisions that can be made by a municipal council relating to an industrial area. Phase three addresses the need to Make a Decision to prepare a Development Plan, or follow alternative courses of action with regard to an area. If the municipality decides to initiate revitalization activities, it would then commit resources to preparation of the plan.

The fourth section of the report lists the information that is required to Prepare the Development Plan. This forms the fourth phase of the study.

The fifth phase is to Approve and Implement the plan. In this phase, any legislative approvals required to implement the land use component of the Development Plan have to be obtained. As well, the strategy for the remaining elements of the plan has to be implemented. This information is presented in section five of the report.

The sixth and final phase of the process is to Monitor the progress of the Development Plan making adjustments as necessary to carry out improvements. Section six of the report presents information on monitoring the Development Plan.

*The detailed activity chart for the process described above is shown in Figure 2. and is the last page of this report. For details of the process, please open to the chart and read it in conjunction with the text. This chart can be easily adapted to meet local circumstances and can be used for study preparation.

# 1. Begin the Process

## Who's Involved

The actors in the process represent both public and private sector interests. As shown in Figure 2. they include the:

- Industrialists/real estate community
- Municipal economic development department
- Municipal planning department
- Municipal public works/traffic/parks department
- Municipal building department
- Local residents

These actors all play important and varying roles in determining an area's potential for industrial use. Figure 2. indicates the inputs required from each participant at the appropriate point in the process.

## Create a Public / Private Commitment

It is essential that cooperation and input be received from the industrial property owners in the area. This will involve creating a willingness on their behalf to take part in the assessment of an area's revitalization potential. Without support and commitment from the industrial property owners, the usefulness of carrying out an evaluation of revitalization potential could be limited. It is important, therefore, that the municipality approach and talk to industrial property owners in an area to get their input into the process at the outset. This input can be gained in several ways but one of the most effective is by municipal officials arranging meetings with property owners at their place of business.

Once private sector support has been given and council has agreed to proceed with the study, the Planning Department, or any other appropriate agency such as the Economic Development Department, should be given the responsibility for bringing together this variety of interests. The department should then prepare terms of reference for the study to determine economic and land use viability of the selected older industrial area. The terms of reference should be directed towards implementing the findings on the area if it is judged to be viable for revitalization.

On the basis of the proposed terms of reference, municipal council would then be able to decide whether or not to proceed with the proposed study. If council does decide to proceed, both financial and staff resources from the various municipal departments then have to be provided to carry out the work. Incidentally, if municipal staff does not have the range of skills needed to carry out the economic and planning analysis, council should be prepared to engage consultants with the necessary specialized skills.

At this stage it may be advisable for municipal council to appoint a project coordinator. This role may be filled by a member of the planning department or a qualified individual from another municipal department. The coordinator must have the project management skills and the authority to assign appropriate roles to staff within the individual municipal departments to carry out the study. As noted above, the roles of study participants, their inputs and their responsibilities are set out in Figure 2.

The evaluation methodology presented in this section is based on the approach used to assess each of the older industrial areas in the case study communities. It presents a list of economic and planning considerations which should be addressed by a municipality which wants to assess the potential for revitalizing an older industrial area located in the community. These considerations combine both quantitative and qualitative measures to determine an area's viability for continued industrial use. In order of priority these considerations are as follows:

- **Marketability (demand) of space in the area;**
- **Development potential (supply) of vacant land and buildings in the area;**
- **Condition and suitability of the stock of buildings and structures for continued industrial activity;**
- **Condition and capacity of the hard and soft infrastructure in the area to support industry; and,**
- **Compatibility between industrial land use and other types of land use activity.**

All five concerns must be realistically assessed to determine the costs and benefits of any specific strategy to revitalize an area for industrial use. For example, falling demand for industrial buildings will nullify any effort to improve municipal infrastructure for industrial purposes. Likewise, a marketing effort to attract new industrial activity or developer investment in an area may be unsuccessful without a corresponding effort to improve area infrastructure deficiencies.

## Sources of Information

In order to carry out the economic and planning evaluation, primary research is essential. The assembly of this data requires site visits to the industrial area to administer a marketing questionnaire to the property owners, to carry out a building evaluation and to assess the condition of the municipal infrastructure. (See Appendices B and C).

Secondary research using sources such as Statistics Canada and local and provicial economic development studies provide useful data on the condition of the local economy. If there is a local economic development department, it may have information about the industrial composition of the community developed by community-wide surveys of the department. This information should include data on labour force characteristics and industry sector information*

The municipal engineering department is the source of information on changes to existing municipal infrastructure such as the installation of new sewer or water pipes to serve an area. This information is ususlly available in map form. The department should also be a source of information on the condition of existing road surfaces, the presence of curbing etc. as well as any schedule for proposed improvements as part of the municipal capital budget. The municipal roads department is the source of information related to traffic flow into and out of the area.

The municipal building department should have records on improvements that have been made to the buildings in the study area. This department can also provide information on the level of new investment in older areas relative to development in newer areas. They may also be able to provide information about the type of use that is made of building expansions or additions in the older industrial area.

The local industrialist/real estate community is a good source of information about current market activity and commentary on the market potential of an older area. Discussion with local realtors and developers can give a strong indication of the levels of risk that the private development community operates with. These types of discussions will give the municipality a better understanding of local development forces.

## Market Potential (Demand)

Since the market thrust in recent years has been toward new industrial parks, the market potential of many of these older areas may not have been analyzed for some time. In determining potential

*The level of secondary data collected is based on a cost factor. Many of the private sector sources of industrial information may be cost prohibitive. However it is important that a community use information which is of sufficient quality to carry out the analysis. This decision must be made by the coordinator at the outset of the study.

demand, possible new and renovated space should be attractive to firms with locational criteria similar to firms already in the area. The demand for continued and intensified use of the lands and the buildings is key to understanding the future prospects and, thus, the viability of revitalizing the area.

The assessment of market potential should consider:

- identifying community-wide economic trends;
- relating the area economic trends to these community trends;
- undertaking market research; and,
- identifying target markets.

## Community Economic Trends

The evaluation of community economic trends highlights changes taking place within the economic structure of the community. At the community level, this evaluation provides an indication of the market potential for industries which find the community attractive for their business activity. This evaluation should be carried out using a minimum of a ten year time period because such a time period will serve to smooth out any major variations in the trends which could be caused by a "one time occurrence" such as the closure of a major industry in the community. A number of indicators can be used to determine these trends. The evaluation should consider the following:

**Industrial Composition:** As shown in Table 1., an analysis of the industrial composition of the labour force will show which sectors have experienced growth and those which have declined over the study period. From this analysis an indication of the recent change in employment activity may highlight future growth prospects.

*Table 1* **Labour Force Composition by Industry Group, 1971-1981**

IN 1971 THE MANUFACTURING INDUSTRY GROUP REPRESENTED A LARGER PROPORTION OF LABOUR FORCE EMPLOYMENT THE SERVICE SECTOR EMPLOYMENT.

IN 1981 COMMUNITY BUSINESS AND PERSONAL SERVICES, REPRESENTED A LARGER PROPORTION OF LABOUR FORCE EMPLOYMENT THAN MANUFACTURING INDUSTRY EMPLOYMENT.

| INDUSTRY GROUP | 1971 N | 1971 % | 1981 N | 1981 % | CHANGE % |
|---|---|---|---|---|---|
| Primary | 840 | 1.8 | 1,420 | 2.3 | 69.0 |
| Manufacturing | 14,335 | 31.9 | 17,330 | 28.6 | 20.7 |
| Construction | 2,750 | 6.1 | 3,370 | 5.5 | 22.5 |
| Transportation , Communication | 2,640 | 5.8 | 3,675 | 6.0 | 39.2 |
| Trade | 6,790 | 15.1 | 10,250 | 16.9 | 51.0 |
| Finance , Insurance , Real Estate | 1,445 | 3.2 | 2,880 | 4.7 | 99.3 |
| Commercial Business , Personal Services | 11,330 | 25.1 | 17,995 | 29.7 | 59.2 |
| Public Administration , Defence | 1,850 | 4.1 | 2,470 | 4.09 | 33.5 |
| Industry - Not Applicable | 2,995 | 6.6 | 1,040 | 1.7 | -65.3 |
| Total | 44,965 | 100.0 | 60,430 | 100.0 | +34.4 |

ALTHOUGH MANUFACTURING EMPLOYMENT INCREASED IN PERCENTAGE TERMS, THE RATE OF INCREASE WAS MUCH LESS THAN THAT EXPERIENCED IN THE TRADE, FINANCE, INSURANCE, REAL ESTATE, AND COMMUNITY, BUSINESS, AND PERSONAL SERVICES INDUSTRIES EMPLOYMENT.

THE COMMUNITY EXPERIENCED OVERALL LABOUR FORCE GROWTH.

Source: Census of Canada, 1981 (Information shown is derived from tabulations for the City of St. Catharines, Ontario).

**Occupational Mix:** The occupational mix of the labour force may give insights into the types of industry potential for the community ie. which sectors to target such as research and development, metal manufacturing, service warehousing. (Table 2.)

**Industrial Building Permits:** A review of industrial building permit activity will signal how the market is performing at the community level. It will give an indication of the demand for space in the community for new construction as compared to the expansion of existing facilities.

**Firms by Industry Sector:** An ordering of the firms by industry sector will indicate the historical growth pattern and the potential for new firms in the community. (Table 3 and 4.)

## Area Economic Trends

Having identified the general economic trends in the community, a detailed evaluation of the industrial area seeks to discover if the same community-wide trends are evident in the older established area. This is best completed by using the information collected from the marketing survey of existing industrialists and businessmen in the area. (See Appendix C). These trends should be assessed over a ten year time period to draw comparisons with the community-wide trends.

The key considerations are:

- reasons for locating in the area;
- type of industry and activity carried out;
- occupational mix of employees;
- number of employees – by industry and activity; and,
- number of new firms – by industry and activity in the area.

## Market Assessment

To analyze the potential demand in these areas, a market assessment is carried out. The market research should identify and compare:

- industrial lease rates in the area and the community;
- industrial land costs in the area and the community;
- building and land absorption rates for industrial use in the area and the community;
- building renovation vs new construction costs;
- rates of return acceptable to developer/investor in an "untried" area such as an older industrial area; and,

*Table 2* **Occupation by Major Groups For Selected Towns, 1971-1981**

| OCCUPATION MAJOR GROUPS | 1971 N | 1971 % | 1981 N | 1981 % | CHANGE % |
|---|---|---|---|---|---|
| Managerial , Administrative and Related | 1,784 | 3.9 | 4,420 | 7.3 | 147.7 |
| Teaching and Related | 2,005 | 4.4 | 2,610 | 4.3 | 30.1 |
| Medicine and Health | 1,815 | 4.0 | 2,615 | 4.3 | 44.0 |
| Technological , Social , Religious , Artistic and Related | 2,060 | 4.5 | 3,800 | 6.2 | 84.4 |
| Clerical and Related | 6,755 | 15.0 | 9,960 | 16.4 | 47.4 |
| Sales | 4,730 | 10.5 | 5,905 | 9.7 | 24.8 |
| Service | 4,885 | 10.8 | 7,925 | 13.1 | 62.2 |
| Primary | 1,060 | 2.3 | 1,440 | 2.3 | 35.8 |
| Processing | 1,905 | 4.2 | 2,465 | 4.0 | 29.3 |
| Machining , Products Fabricating , Assembly and Repair | 8,060 | 17.9 | 10,395 | 17.2 | 28.9 |
| Construction Trades | 2,570 | 5.7 | 3,000 | 4.9 | 16.7 |
| Transportation Equipment | 1,595 | 3.5 | 1,975 | 3.2 | 23.8 |
| Other | 2,660 | 5.9 | 2,895 | 4.7 | 8.8 |
| Not Stated | 3,095 | 6.8 | | | |

HIGHLIGHTED CATEGORIES ALL SHOWED HIGH RATES OF GROWTH

Source: Census of Canada, 1981 (Information shown is derived from tabulations for the City of St. Catharines, Ontario).

- municipal policy on non-industrial intrusion in these areas.

Because the areas are relatively small in size and have a moderate rate of leasing and sale activity, extrapolations will likely be necessary. These extrapolations should be based on the findings demonstrated by the past trends, tempered with a good common sense approach about realistic market opportunities for the area. By the way, historic demand figures should not be relied upon exclusively for future trends, especially in cases where a limited supply of industrial space has been available.

## Market Targeting

A further way to assess potential demand, beyond historic trends and extrapolations, is to target the area for certain industrial sectors and assess the size of the target market. In so doing, it is critical to match the attributes of the area with the needs of industry in that particular sector. The key attributes of many of these areas are:

- average or below average market rates for space for lease or purchase;
- proximity to support services found in the downtown area;

*Table 3* **Number of Firms and Employees by Manufacturing Sector, 1978**

| Industry | No. of Firms | No. of Employees | % of Firms | % of Employees |
|---|---|---|---|---|
| Food & Kindred | 20 | 602 | 10.70 | 3.41 |
| Tobacco Manufacturing | 0 | 0 | 0.00 | 0.00 |
| Textile Products | 6 | 396 | 3.21 | 2.24 |
| Apparel from Fabrics | 6 | 124 | 3.21 | 0.70 |
| Lumber & Wood | 22 | 453 | 11.76 | 2.57 |
| Furniture & Fixtures | 4 | 25 | 2.14 | 0.14 |
| Paper & Allied | 5 | 425 | 2.67 | 2.41 |
| Printing & Publishing | 11 | 312 | 5.88 | 1.77 |
| Chemicals & Allied | 3 | 80 | 1.60 | 0.45 |
| Petroleum & Related | 2 | 39 | 1.07 | 0.22 |
| Rubber & Plastic | 1 | 8 | 0.53 | 0.05 |
| Leather & Leather Products | 1 | 23 | 0.53 | 0.13 |
| Stone, Clay, Glass | 8 | 207 | 4.28 | 1.17 |
| Primary Metal Industry | 6 | 413 | 3.21 | 2.34 |
| Fabricated Metals | 42 | 1692 | 22.46 | 9.59 |
| Machinery except Electrical | 28 | 1172 | 14.97 | 6.64 |
| Electrical Machinery | 2 | 772 | 1.07 | 4.37 |
| Transportation Equipment | 8 | 10399 | 4.28 | 58.92 |
| Professional & Scientific | 4 | 68 | 2.14 | 0.39 |
| Miscellaneous Manufacturing | 8 | 440 | 4.28 | 2.49 |
| Total | 187 | 17650 | 100.00 | 100.00 |
| Size of Firms by Number of Employees | | | | |
| Size | | | | |
| 1–4 | 31 | 98 | 16.58 | 0.56 |
| 5–9 | 53 | 353 | 28.34 | 2.00 |
| 10–19 | 28 | 398 | 14.97 | 2.25 |
| 20–49 | 38 | 1200 | 20.32 | 6.80 |
| 50–99 | 14 | 932 | 7.49 | 5.28 |
| 100–199 | 12 | 1658 | 6.42 | 9.39 |
| 200–499 | 6 | 1741 | 3.21 | 9.86 |
| 500–999 | 3 | 2034 | 1.60 | 11.52 |
| 1000+ | 2 | 9236 | 1.07 | 52.33 |
| Total | 187 | 17650 | 100.00 | 100.00 |

Source: Scott's Industrial Directory (Information shown is derived from tabulations for the City of St. Catharines, Ontario).

- a building stock suitable for smaller users and assembly of small products; and,
- location for expansion of existing business.

## Development Potential (Supply)

Generally lands in older industrial areas are in the control of several owners who may be industrialists or holders of revenue-producing buildings. As a consequence, there is not a common developer or group of developers servicing and marketing this type of area in a systematic fashion. Because of this it is difficult to immediately identify how much land is available for development or redevelopment in these areas compared to land available in a new industrial park.*

To overcome the problems posed by multiple ownership, the assessment of development potential (supply) should include the following:

- **the pattern and level of land utilization throughout the area;**
- **an understanding of the future intentions of the area firms; and,**
- **planning regulations applied in the area, i.e. zoning by-laws, site plan control.**

*While the split between user owned and investor owned buildings fluctuates, an average split would be 65% owned - 35% investor.

*Table 4* **Number of Firms and Employees by Manufacturing Sector, 1982**

| Industry | No. of Firms | No. of Employees | % of Firms | % of Employees |
|---|---|---|---|---|
| Food & Kindred | 27 | 724 | 12.98 | 4.25 |
| Tobacco Manufacturing | 0 | 0 | 0.00 | 0.00 |
| Textile Products | 5 | 315 | 2.40 | 1.85 |
| Apparel from Fabrics | 7 | 131 | 3.37 | 0.77 |
| Lumber & Wood | 24 | 443 | 11.54 | 2.60 |
| Furniture & Fixtures | 3 | 15 | 1.44 | 0.09 |
| Paper & Allied | 4 | 588 | 1.92 | 3.45 |
| Printing & Publishing | 15 | 359 | 7.21 | 2.11 |
| Chemicals & Allied | 6 | 121 | 2.88 | 0.71 |
| Petroleum & Related | 2 | 15 | 0.96 | 0.09 |
| Rubber & Plastic | 4 | 41 | 1.92 | 0.24 |
| Leather & Leather Products | 4 | 190 | 1.92 | 1.12 |
| Stone, Clay, Glass | 9 | 106 | 4.33 | 0.62 |
| Primary Metal Industry | 6 | 594 | 2.88 | 3.49 |
| Fabricated Metals | 41 | 2108 | 19.71 | 12.37 |
| Machinery except Electrical | 27 | 1342 | 12.98 | 7.88 |
| Electrical Machinery | 2 | 620 | 0.96 | 3.64 |
| Transportation Equipment | 8 | 8942 | 3.85 | 52.48 |
| Professional & Scientific | 5 | 290 | 2.40 | 1.70 |
| Miscellaneous Manufacturing | 9 | 96 | 4.33 | 0.56 |
| Total | 208 | 17040 | 100.00 | 100.00 |
| Size of Firms by Number of Employees | | | | |
| Size | | | | |
| 1-4 | 43 | | 20.67 | |
| 5-9 | 53 | | 25.48 | |
| 10-19 | 46 | | 22.12 | |
| 20-49 | 30 | | 14.42 | |
| 50-99 | 13 | | 6.25 | |
| 100-199 | 9 | | 4.33 | |
| 200-499 | 10 | | 4.81 | |
| 500-999 | 1 | | 0.48 | |
| 1000+ | 3 | | 1.44 | |
| Total | 208 | | 100.00 | |

Source: Scott's Industrial Directory (Information shown is derived from tabulations for the City of St. Catharines, Ontario).

## Pattern and Level of Land Utilization

Land utilization in these areas is a result of several factors including:

- type of industry and need of space for outdoor storage and parking;
- surplus land that may have been held for expansion purposes;
- actual and perceived land values;
- the space available in vacant buildings;
- health of industry; and,
- capacity of existing services in the area.

As shown in Figure 3., the amount of vacant and underutilized land should be identified from existing base mapping of the area. This analysis is the first assessment of development potential.

**Type of Industry:** The pattern and level of land utilization can be categorized by general industry types.

Heavy manufacturers tend to have low site coverage with large areas for open storage, due in part to the large commodities produced.

Distribution and transportation firms tend to have lower than average coverage to accommodate large numbers of truck movements and trailer storage.

Light manufacturers and offices have the highest site coverage with no need for outdoor storage space.

As the industrial mix changes in an area, the land utilization rate will likely change. The potential for greater utilization should increase as heavy manufacturers relocate or mature industries decline or close.

**Surplus Land:** The desire and need for surplus lands for future expansion should be considered as another factor influencing the land utilization pattern. The growth rate of specific firms and sectors in the economy should identify those firms with expansion potential.

However, the need for this land and/or building asset is viewed differently by some industrialists. It is not uncommon that a mature industry may have an historic surplus of land that has never been disposed of. It must be recognized that a certain level of "apparent" surplus will likely exist in most areas to accommodate this expansion.

**Land Values:** Land values, both actual and perceived (or speculative), have an impact on utilization. Higher cost lands tend to have greater site coverage. Large expansive firms, requiring large areas of open storage, tend to locate in the least expensive industrial areas. Consequently, land values within the older industrial area should be compared to other industrial property in the community.

**Vacant Buildings:** The supply of vacant space should be considered in the assessment of development potential. This space should be assessed for its desirability for new uses. Building suitability to meet the requirements of new industry locating in the area should be considered of prime importance.

**Health of Industry:** Land and building utilization will also vary according to the health of local industry. This utilization can be expected to vary in a predictable manner through the normal business cycle except in instances of major structural changes to the local economy.

**Existing Municipal Services:** Limitations in the capacity of existing municipal services may in turn restrict the development potential as detailed in the community official plan. These capacities should be reviewed in light of decisions about change in the area.

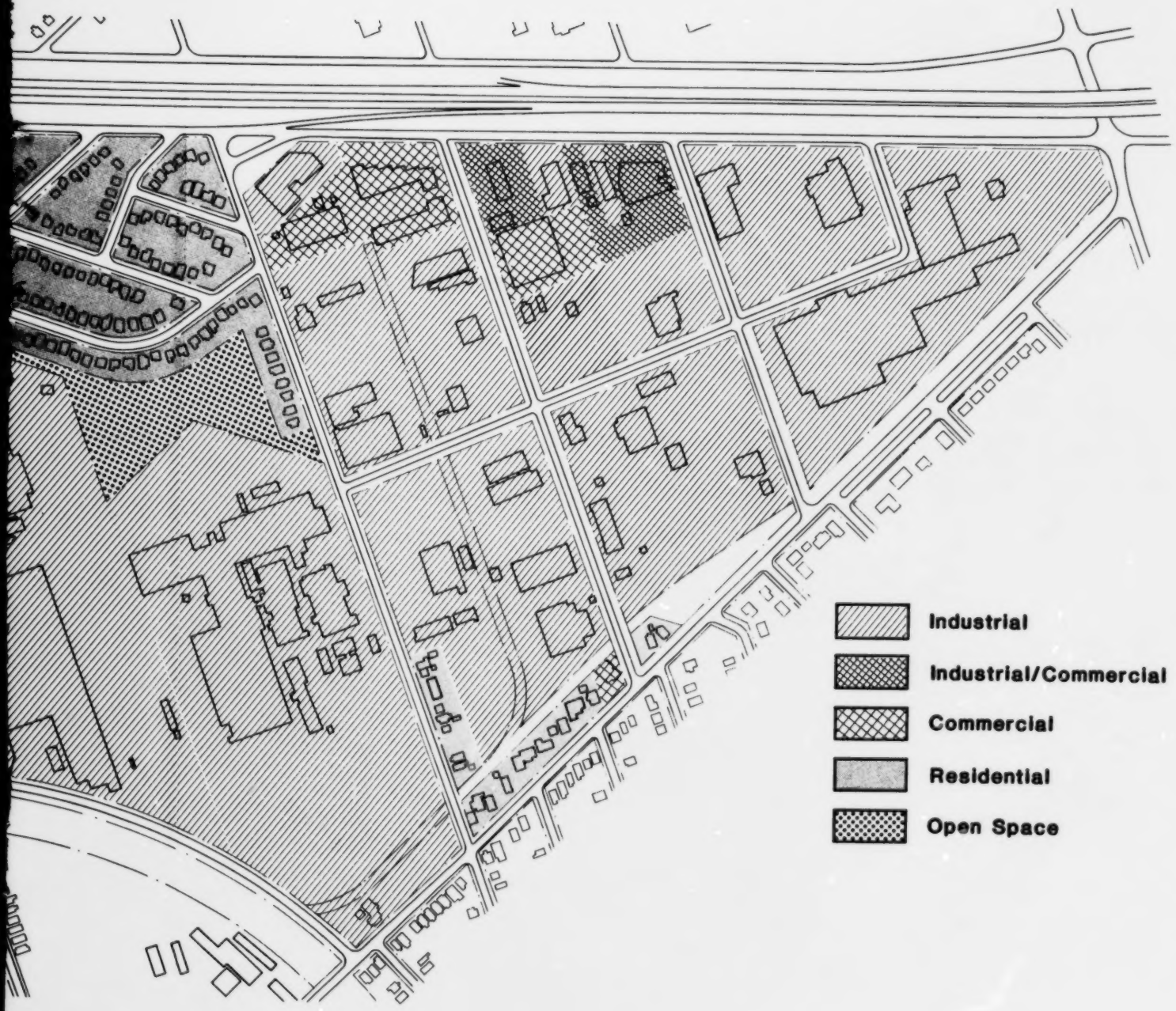
## Future Intentions of Firms

An inventory of land utilization requires further input before it can be translated into actual development potential. Some firms in an area are solid and long-established neighbours, while others are newcomers. An assessment of the future intentions of resident firms will assist in indentifying potential development opportunities*. The market survey of firms in the area also provides information such as:

- length of residence;
- historic growth trends;

*While some perceptions are gathered from this information, the actual financial health of firms would not likely be available. Such a survey could be carried out at the commencement of the study process and monitored or updated as a regular activity.

*Figure 3*




# Land Use

0 50 100 300

Scale In Metres

- current expansion requirements;
- locational preferences or problems; and,
- employment levels.

This information generates both potential supply and market demand information. From a supply perspective, it identifies static and declining firms in terms of floor area requirements, locational preferences or problems that may indicate potential relocation in the future.

### Planning Controls

Planning policies and zoning regulations used in the community have an impact on the development potential of these areas. For example, the permissible site coverage for industrial lots may be dictated by lot setbacks and parking standards, or expressed as an absolute standard, i.e. 40 percent of the site. Therefore, the consideration of planning regulations from a market demand standpoint should include:

- identification of constraints imposed by the community official plan on the development potential of the area;
- an estimate of the "market" site coverage, i.e. what is actually built on the ground versus what is permitted by zoning regulations governing the area; and,
- an estimate of potential supply based on an apportioned permitted site coverage to the identified redevelopment sites (if any) in the older industrial area.

## Building Condition and Suitability

Building condition is a function of the original design and construction of the building and the amount of maintenance and upgrading invested in the building over the years. The structural integrity of the building is based on the original design loads and the existing condition. Older structures may not be structurally sound after extended periods of minor settling and shifting and may not be able to be remedied at reasonable cost.

The age and condition of major building systems, both mechanical and electrical, may pose limitations on the structure in terms of excessive operating costs or deficient capabilities. The condition of the facade may affect building efficiency (i.e. poorly insulated windows) and aesthetic appearance.

Building suitability is a key factor in assessing the match between the building stock and the requirements of existing and new industry. The functional characteristics of a building, that is, how its component parts operate together, dictate the usefulness of the space. These component parts include such items as the bay size, ceiling height, floor plate size, vertical movement systems, the mechanical system, electrical system and so on. (For instance, a high rise building would not be useful above the fourth floor without an elevator.) The degree to which these functional characteristics of the building stock and industrial needs match is critical to the evaluation.

The spread between optimal and existing conditions will reflect on the extent of renovation and repair necessary in the building inventory. While renovation is generally less costly than new construction, there is a sensitive balance between cost and benefit for industry. For example, professional experience shows that it is not cost effective to raise the ceiling height of an industrial plant from perhaps 3.65 m to 5.48 m, (12 to 18 feet), even though it would substantially benefit the operational efficiencies of the building.

### Building Conditions

Various elements of the building should be considered in order to evaluate the integrity of the structure and the major building systems. It should include the following:

- a description of the building design and type of construction identifying major structural elements;
- estimates of floor loads for ground level floors and upper story floors;
- assessment of the building for signs of structural stress (cracks in walls or sagging roof lines);
- signs of deterioration of windows, roof surfaces or condition of mortar and concrete;
- the amount of insulation in the building;
- condition and adequacy of the electrical and mechanical systems;

- signs of lack of building maintenance such as damaged columns or broken windows; and,
- building additions for structural integrity with the existing main structure(s).

### Property Conditions

As noted before, property conditions refer to the remainder of the property and include the building facade. Conditions to be considered in the evaluation include:

- the appearance and overall condition of the building facade;
- the surface condition of the space used for outside storage, and whether or not it is screened;
- the material used in the construction and condition of parking lot surfaces;
- the type of landscaping, and its maintenance; and,
- the surface drainage characteristics of the area.

The results of the building and property assessment can be mapped using a very simple rating of "poor-fair-good". This rating helps to identify the potential magnitude of improvements that may be required of private property owners on an area-wide basis. Figure 4. provides an indication of the results of the building and property assessments.

## Infrastructure Condition and Capacity

Industry has very specific hard service requirements including such key elements as; good transport access, reliable energy supplies, an adequate supply of water and a sufficient sewerage discharge capacity. Increasingly industry has also demanded a higher standard of appearance in its immediate environment, particularly in new industrial parks. "Softer" municipal services such as public transit and developed park areas, as well as commercial support services such as local restaurants and banks have an impact on the attractiveness of one industrial area over another.

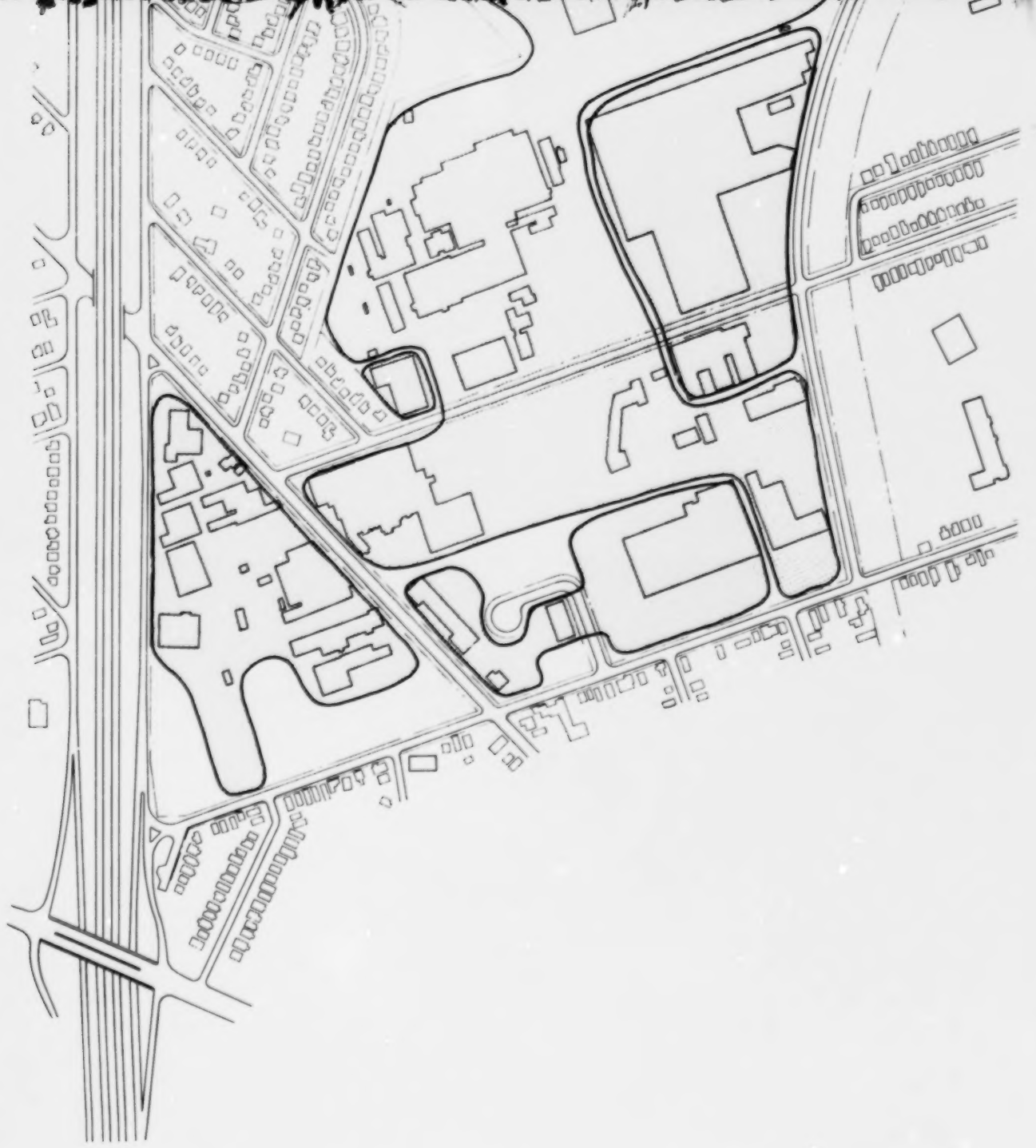
The condition and capacity of this supporting infrastructure is vital to industry from both a functional and aesthetic point of view. Since "hard" infrastructure is primarily a municipal responsibility, it becomes one of the key levers by which the municipality can influence the land use pattern either through neglect, continued maintenance and/or upgrading. This factor is highlighted by the varying standards found throughout industrial areas in a given municipality. The most recent developments incorporate considerably higher standards that affect both the functioning and appearance of the area. The oldest areas have the lowest standards and this gulf between new and old areas appears to be increasing.

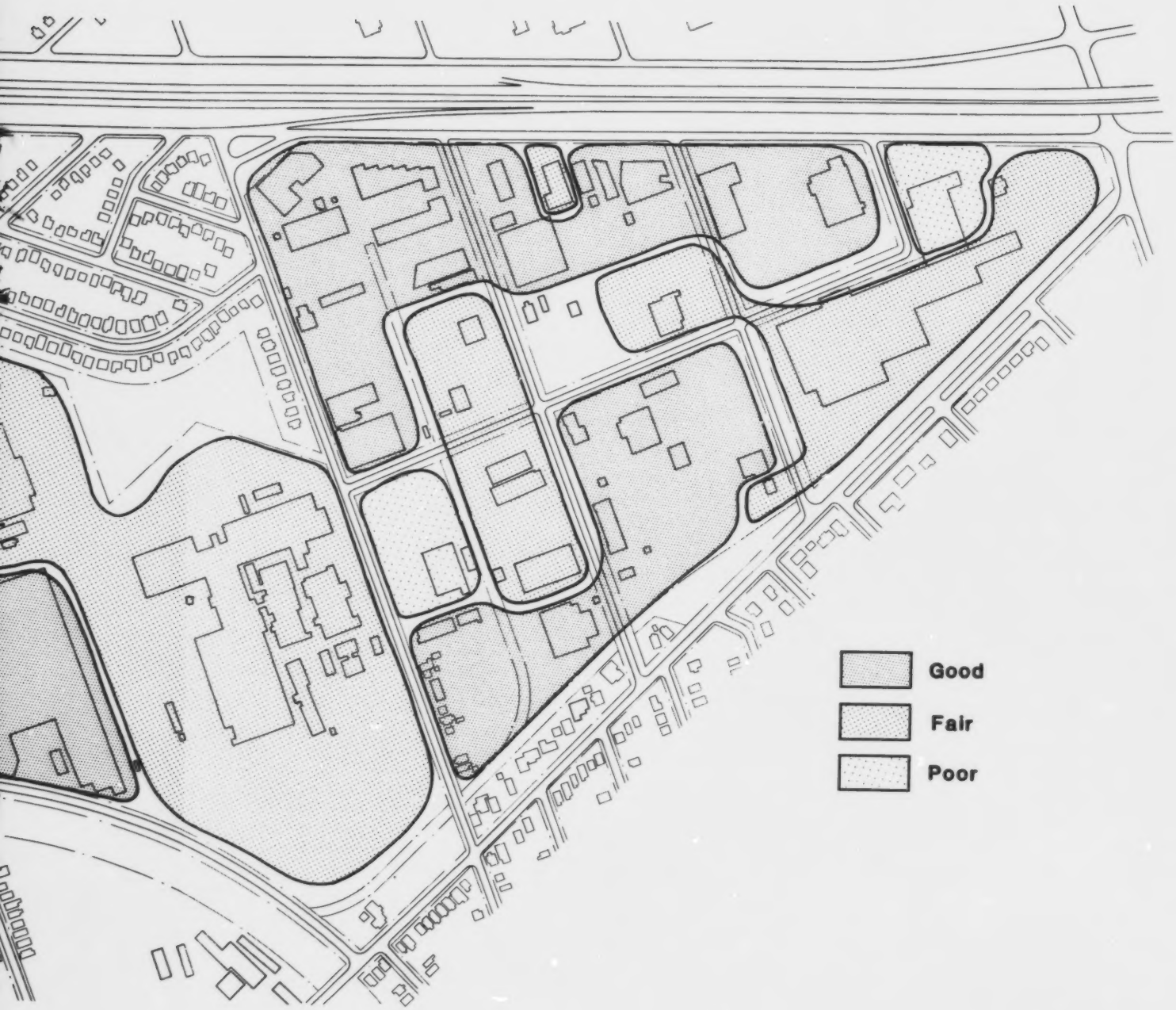
An evaluation* of municipal infrastructure should give consideration to the following:

- surface and sub-surface condition and adequacy of road width to accommodate transport trucks;
- condition and capacity of sanitary and/or storm sewers;
- condition and capacity of the water distribution system;
- adequacy of franchise utilities - gas and hydro; and,
- cost estimates to improve identified deficiences.

*Surface and subsurface road conditions should be assessed.*

*Individual or collective requests by firms to the municipality for improvements could be considered as a trigger point for action, supplementing the technical evaluation by municipal staff that infrastructure usually receive.






# Building and Property Conditions

0 50 100 300

Scale in Metres

NARROW
RIGHT-OF
TRAFFIC
PROBLEM
"ALL INTERSECTIONS
NEED IMPROVEMENT
TO ALLOW TRUCKS
TO TURN EASILY"

*Figure 5*

# Roads

0 50 100 300

Scale In Metres

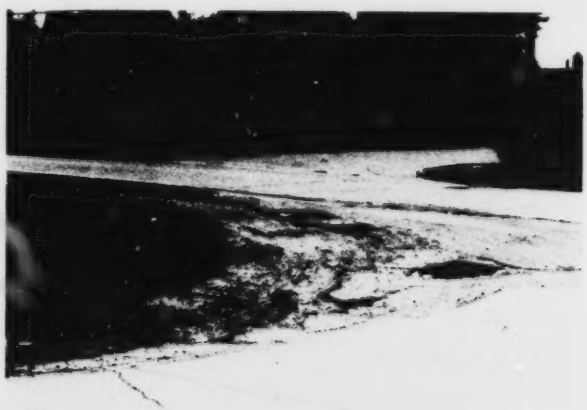
## Municipal Roads

Roads in the older area should be compared to current design standards to see how they vary in terms of pavement widths, intersection turning radius and traffic flow standards. The condition of the roads should be assessed and priorized as to those in need of replacement, major repair or minor maintenance. Figure 5. provides examples of types of improvements that could be identified for roads.

*Road width should be compared to modern day standards.*

## Sanitary/Storm Sewers

The capacity of the system should be measured in terms of the ability to accept additional discharge. If the sewer is combined, special attention should be given to where separation may solve an existing problem. Sewer condition is a reflection of the age and type of material used in construction. If infiltration is occurring, services may need repair or replacement. As well, open ditch storm water systems should be examined to see if they are functioning properly to remove surface runoff.



*Storm drainage systems should be assessed for their ability to carry off surface water.*

*Deteriorated municipal services, such as clogged drainage ditches, reflect municipal neglect of the area.*

User complaints provide an indication about how the existing system is operating. Continual user complaints about discharge, back-up or overflow in sanitary or storm services is an indication of potential problem areas. This information can be mapped as shown in Figures 6 and 7.

## Water Distribution

As with sewer services, the condition of the water distribution system is a function of the age of the system and the type of construction. General deficiencies affecting capacity should be identified such as leakage or pressure malfunctions in the system. User complaints also give an indication about the operating efficiency of the system. Complaints generally arise because of insufficient pressure or volume of flow to support the industrial

activity. Again, this information can be graphically depicted as shown in Figure 8.

### Franchise Utilities

In some older industrial areas, the lack of sufficient energy capacity (electric or gas) could be an impediment to industrial growth or expansion.

The availability of these services should be considered in light of the industry mix currently found in the area and the provision for future demand based on the current and projected need for these services.

### Cost Estimates

Cost estimates should be prepared to determine the order of magnitude of expenditures that would be necessary to bring the identified deficiencies up to local municipal standards.

## Land Use

Land use considerations can be categorized into three broad areas. They include:

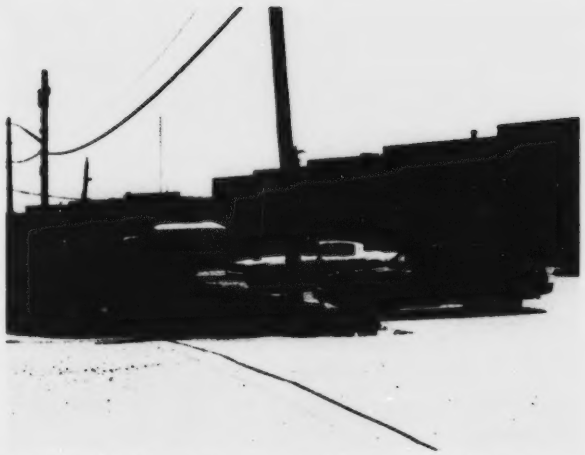
- **land use compatibility;**
- **transportation improvements; and,**
- **community planning and design.**

As shown in Figure 9, a number of land use conflicts and problems in an older industrial area can be identified from the viewpoint of operating industry.

### Compatibility

Industrial properties are being used for commercial activity along the arterial road frontages in industrial areas. Industrialists may perceive a lack of stability in land values and in the municipality's commitment to maintain the area for industrial use.

The lack of barriers or buffers along industrial/residential interfaces may cause industrialists difficulties in dealing with residential neighbours. Complaints may be registered with the municipality or the property owners themselves regarding dust and dirt, noise or aesthetic appearance of the property and surroundings.



*Commercial development along the edge of the industrial area.*

Many industrial areas lack sufficient open space to provide both local and community recreation activities. Vacant lands in the industrial area can be identified for such a purpose.

Pockets of residential land use that may have developed in an area as a result of the lack of planning controls should be identified. Long term acquisition of these isolated properties may be contemplated.

*Fencing, screened by trees, provides a buffer.*

### Transportation

Industrial users may experience difficulty in gaining access to their properties because of one way street patterns or narrow arterial roads which impede truck movement. Access may be through residential streets.

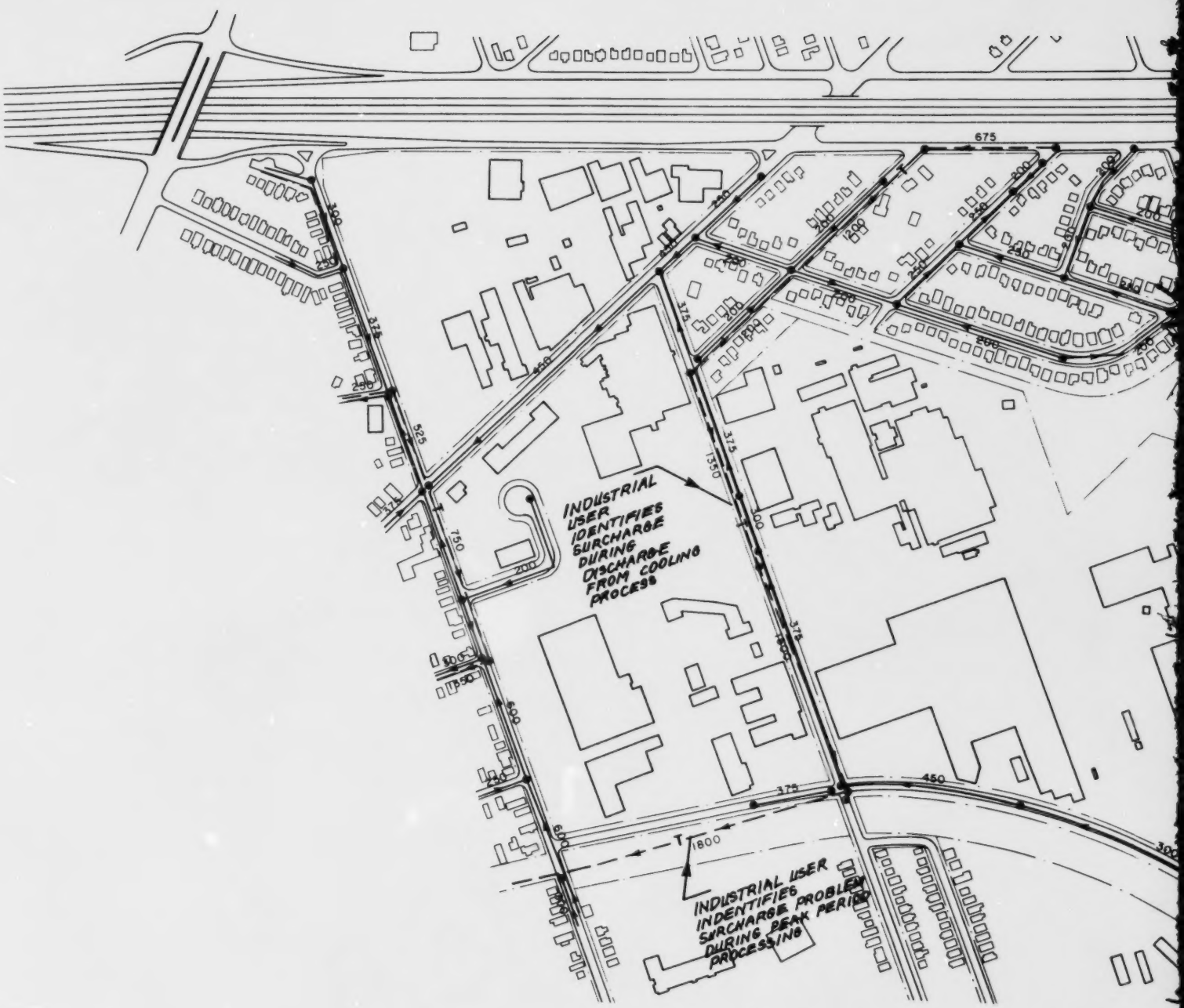
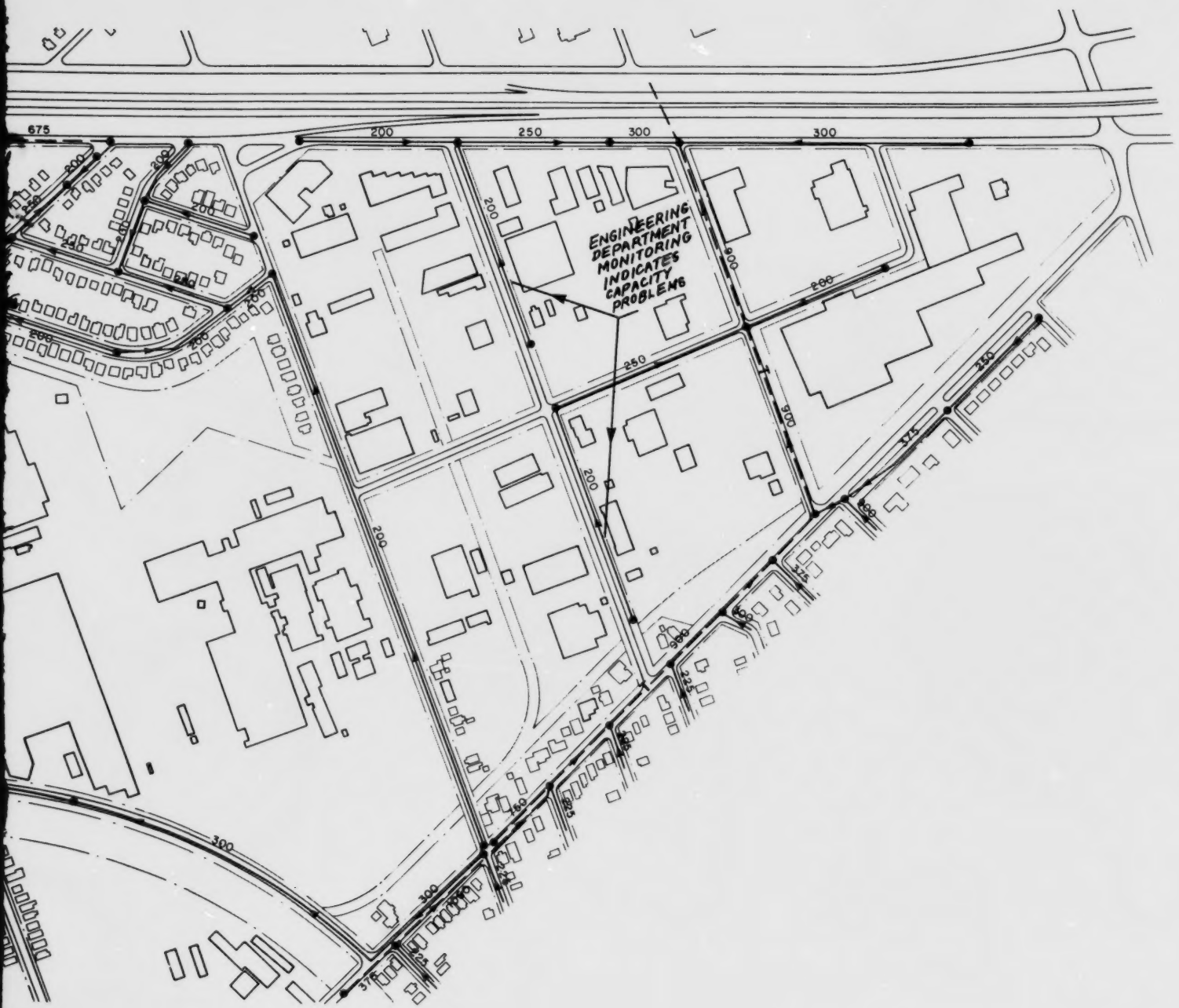

675
525
750
1350
1800
450
600
INDUSTRIAL USER IDENTIFIES SURCHARGE DURING DISCHARGE FROM COOLING PROCESS
INDUSTRIAL USER INDENTIFIES SURCHARGE PROBLEM DURING PEAK PERIOD PROCESSING

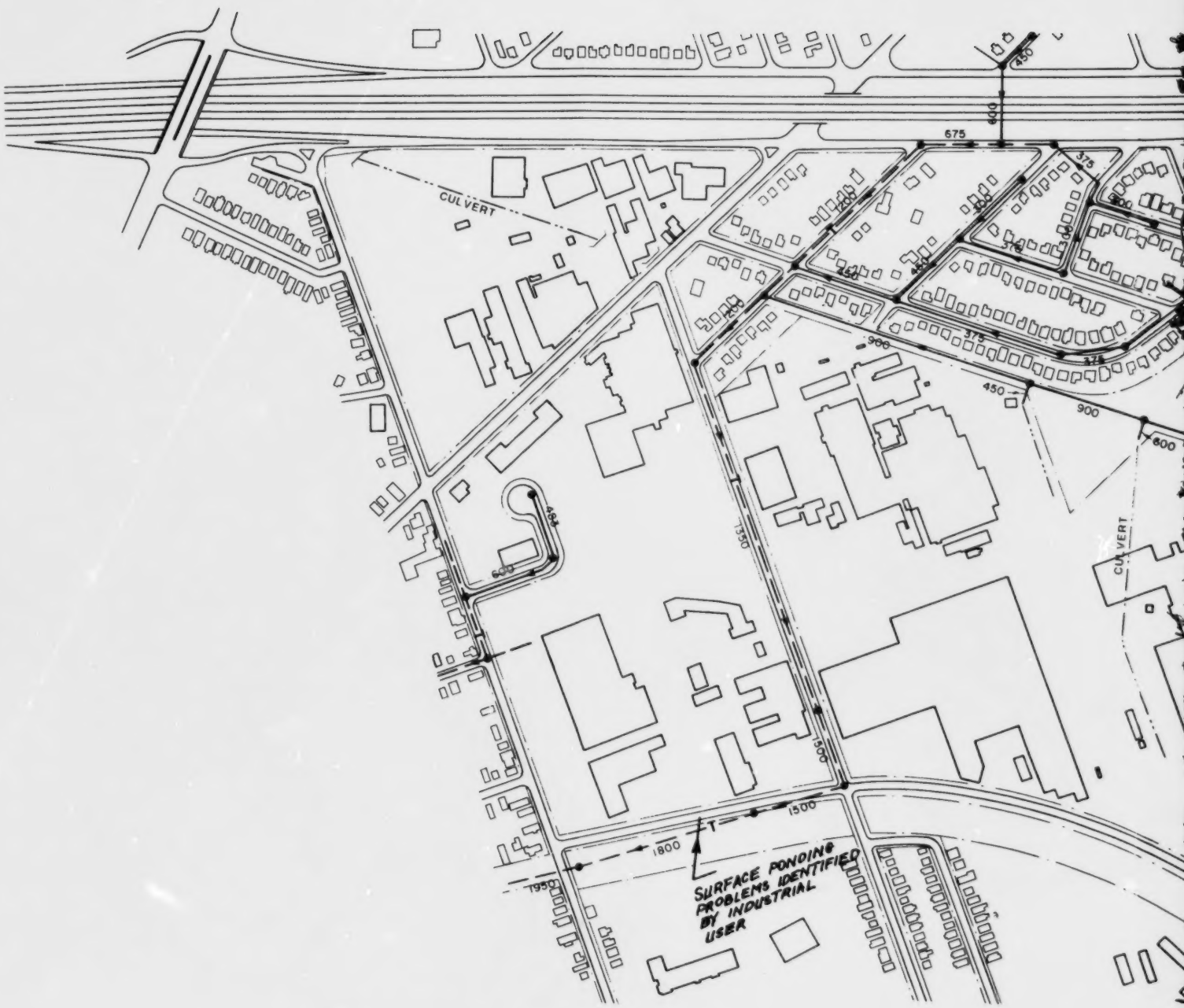
*Figure 6*

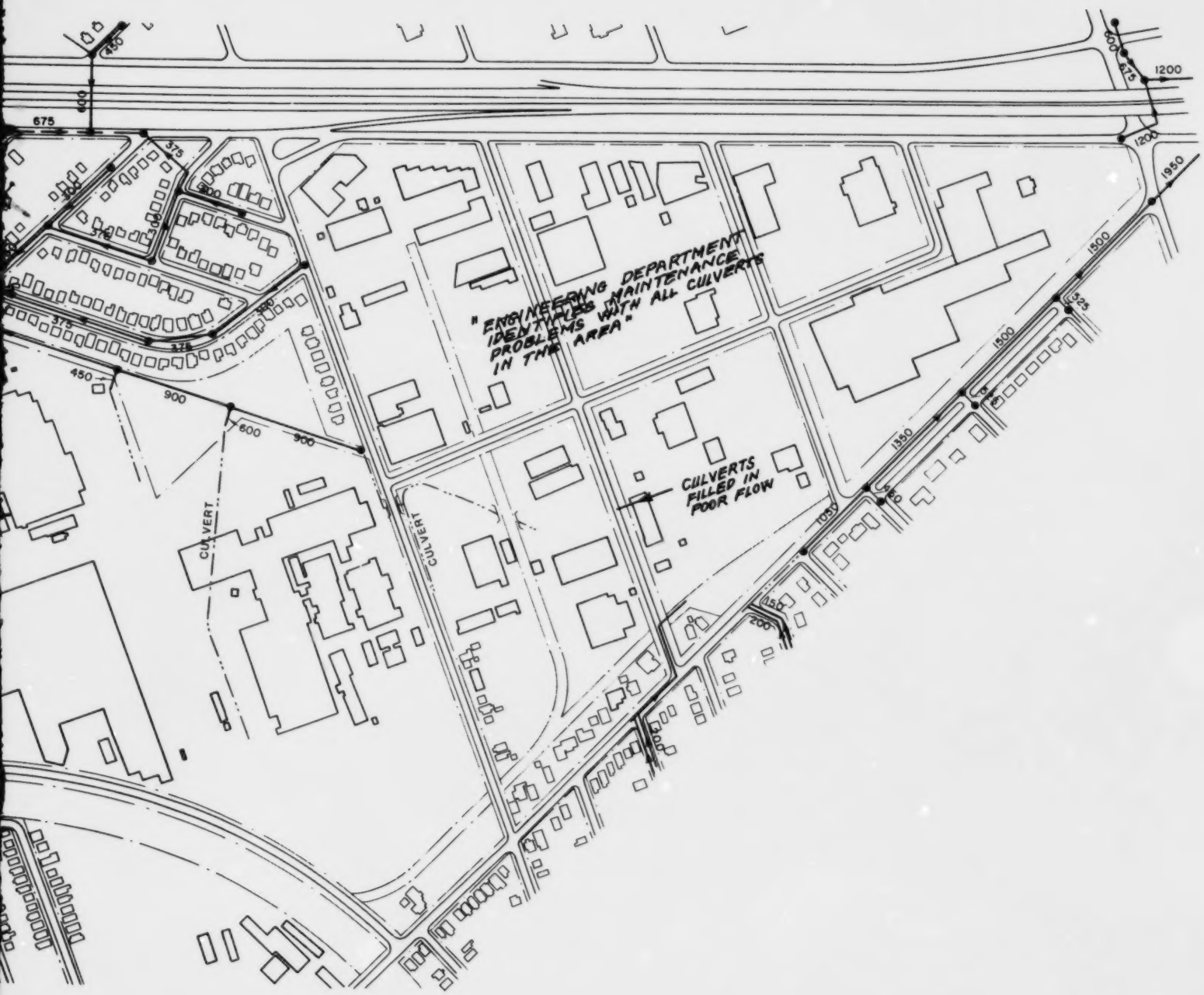



# Sanitary Sewer

0 50 100 300

Scale In Metres


CULVERT
675
600
450
375
900
1500
1800
1950
SURFACE PONDING PROBLEMS IDENTIFIED BY INDUSTRIAL USER




# Storm Sewer

0 50 100 300

Scale in Metres

USER INDICATES
INSUFFICIENT
PRESSURE
FOR PROCESSING

WELL SYSTEM INADEQUATE TO MEET MANUFACTURING NEEDS OF USER
ENGINEERING DEPARTMENT IDENTIFIES NEED TO COMPLETE WATER DISTRIBUTION NETWORK

# Water Distribution

0 50 100 300

Scale in Metres

*Access and egress to private property can be improved.*

Ingress-egress to industrial properties can be constrained because of the width of entrances over culvert drainage systems.

Railway corridors may service some of the properties in the industrial areas. Removal of spur lines could free up available land where they are found to be not essential to servicing the area.

*The removal of railway spurs opens up additional land for development.*

## Community Design

Unlike newly created industrial parks, older industrial areas generally lack an identity as an industrial area in the community.

Block size may be identified as a constraint to improved traffic circulation. In some instances it may be possible to identify future opportunities to complete or redevelop road networks.

Areas of low land utilization may cause industrialists concern. They see vacant land which in many instances is not maintained. Low intensity of use may also indicate low levels of assessment, thus a perception of little municipal commitment to maintain or improve the area.

*Areas of low land utilization could be intensified through additional development.*

## Summary and Options Report

At this point in the process it will be possible to prepare a report to summarize the findings and tradeoffs concerning;

- **market opportunities;**

- **development potential;**
- **infrastructure deficiencies;**
- **building and site deficiencies; and,**
- **land use issues.**

The summary report should identify options and contain preliminary conclusions and recommendations.

Another very important action at this stage of the process is to seek input from the industrial community, public and other affected parties regarding their views on the findings of the study. This input should be obtained through public information meetings where all parties are aware of the decisions that can be made concerning the area.

## Evaluate and Recommend

Following the preparation of the summary report and input from the industrial/real estate community and the public, final recommendations are prepared to:

- **identify development feasibility;**
- **priorize infrastructure deficiencies and prepare cost estimates; and,**
- **establish building suitability for continued industrial use.**

These recommendations form the basis for the decision to take action as presented in the following section of the report. This is the major decision point in the process since at this stage either preparation of a detailed Development Plan will commence or the municipality will allow the area to undergo transition to other land use activities.

A final observation on this step in the process is that while it is possible to identify and categorize the components that form the basis of the summary report, the actual decision that council must is very often not an easy one given the complexity of the interrelated issues that must be weighed from a political point of view by the elected body. That is why it is important that a full range of community views should be solicited prior making the decision.

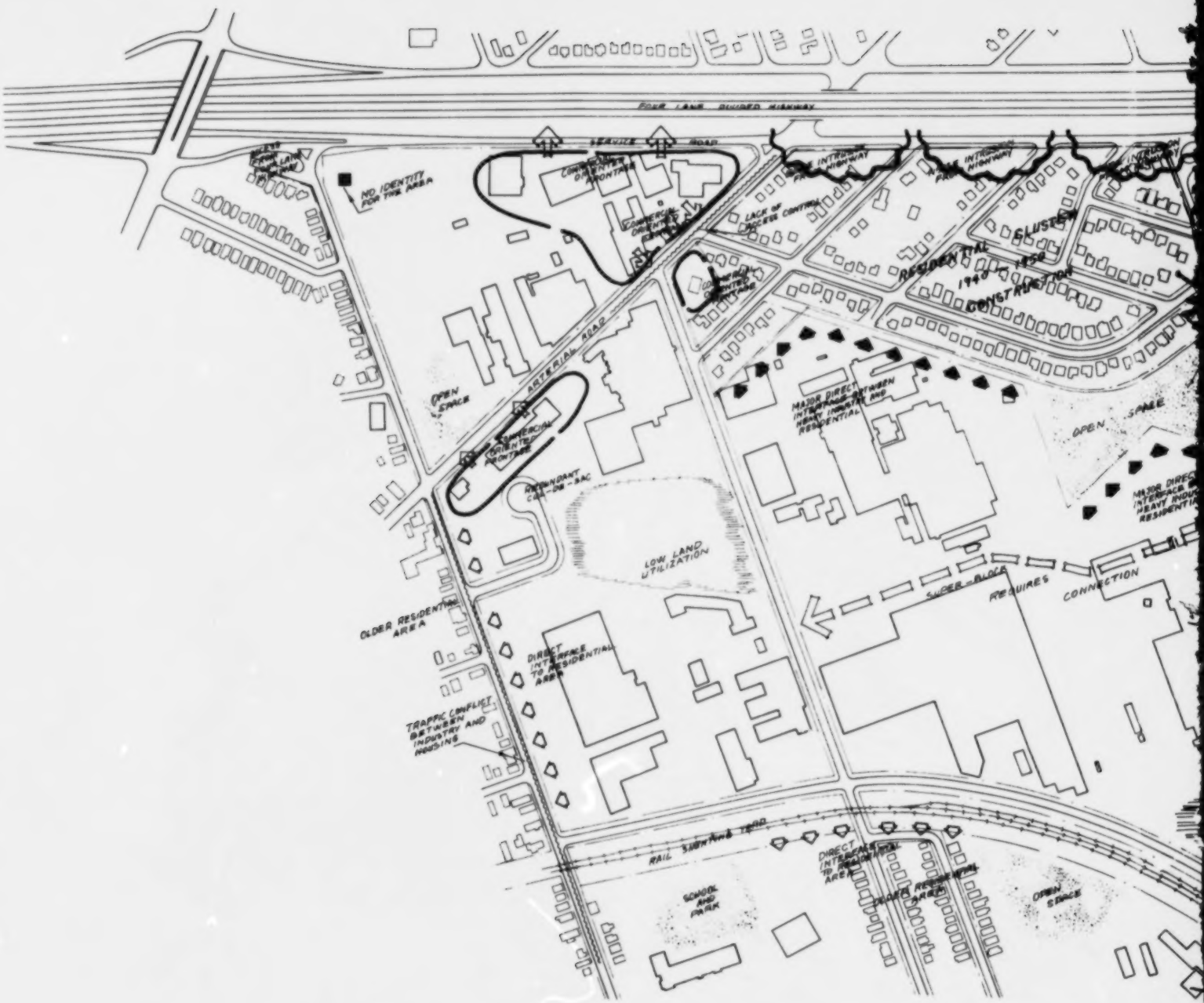
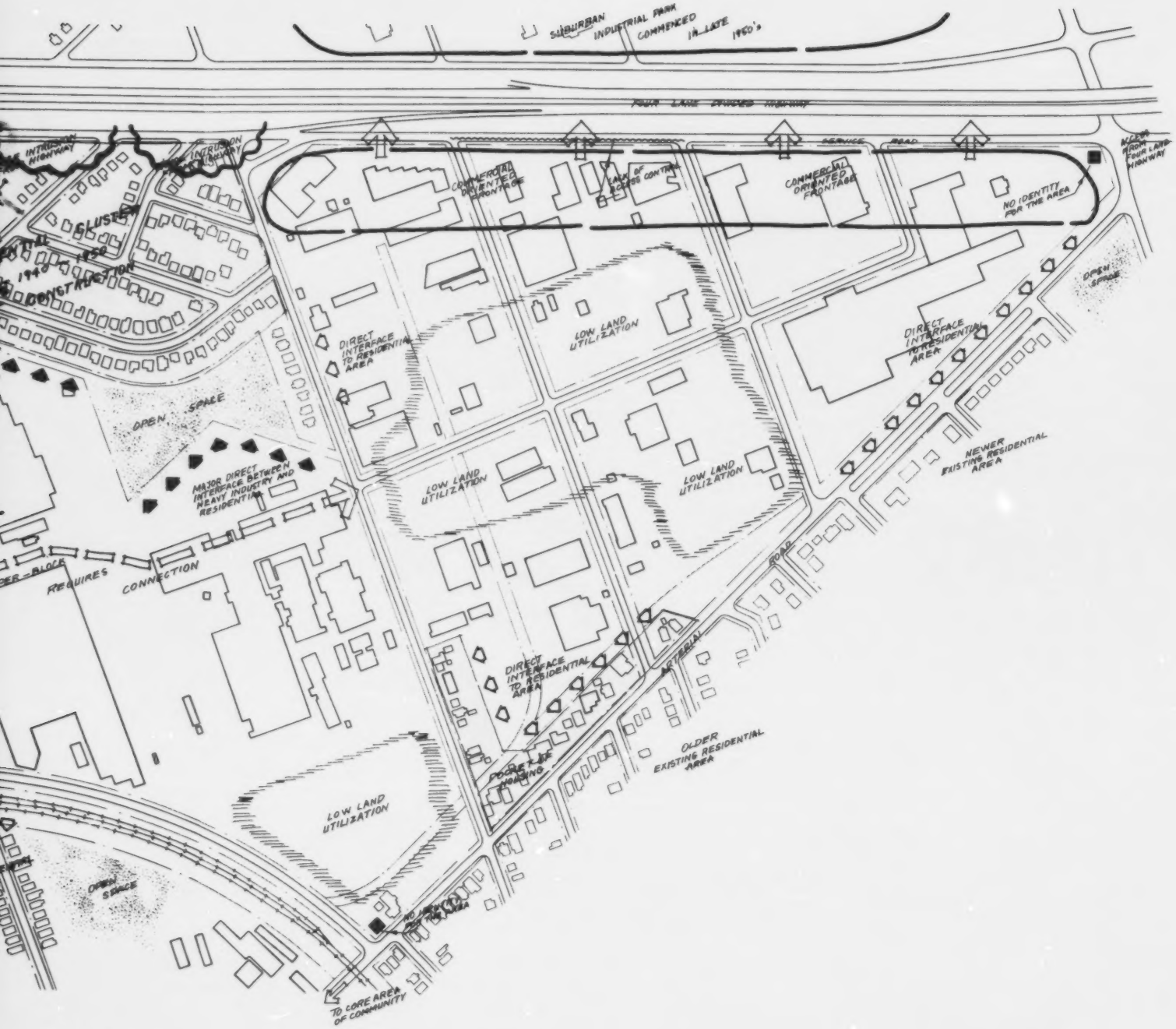
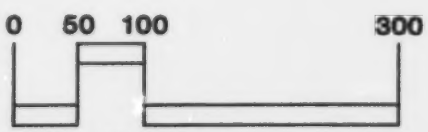

FOUR LANE DIVIDED HIGHWAY
SERVICE ROAD
NO IDENTITY FOR THE AREA
ARTERIAL ROAD
OPEN SPACE
LOW LAND UTILIZATION
OLDER RESIDENTIAL AREA
TRAFFIC CONFLICT BETWEEN INDUSTRY AND HOUSING
RAIL SIDINGS AND YARD
SCHOOL AND PARK
OPEN SPACE
LACK OF ACCESS CONTROL
RESIDENTIAL CONSTRUCTION 1940 - 1950
CLUSTER
OPEN SPACE
REQUIRES
CONNECTION

Figure 9




# Planning Analysis



## 3. Decide to Take Action

A decision to take action is based on the goal of retaining the land, the buildings and the existing infrastructure for continued industrial use. The justification for the expenditure of public monies is based on the prospect that there is a reasonable likelihood that new private investment in the area can be levered if some municipal actions are carried out.

The costs and benefits of a decision to take action are measured both quantitatively and qualitatively. Quantitative measures include the assessment of market demand for space, analysis of available supply and the assessment of infrastructure condition. Qualitative measures address the level of local commitment to action by both the public and private sectors, the need for image improvements and the marketing of the area as part of the community land inventory for industrial use. For the most part, a decision to proceed should be made with as much hard data as possible, although reuse of this resource may involve some element of risk since these areas are generally untried from a market perspective.

There are at least three decisions that a municipality could make about the area. Municipal council could:

- **Decide to do nothing and let market forces naturally evolve the land use pattern in the community;**
- **Decide to "manage" the transition of the area to other land uses, likely over a fairly long period of time; or,**
- **Decide to actively pursue the revitalization of the area for industrial and employment opportunities through a variety of municipal initiatives.**

The second and third options suggest a concerted and planned response to the area and are explained below.

### Transition Management

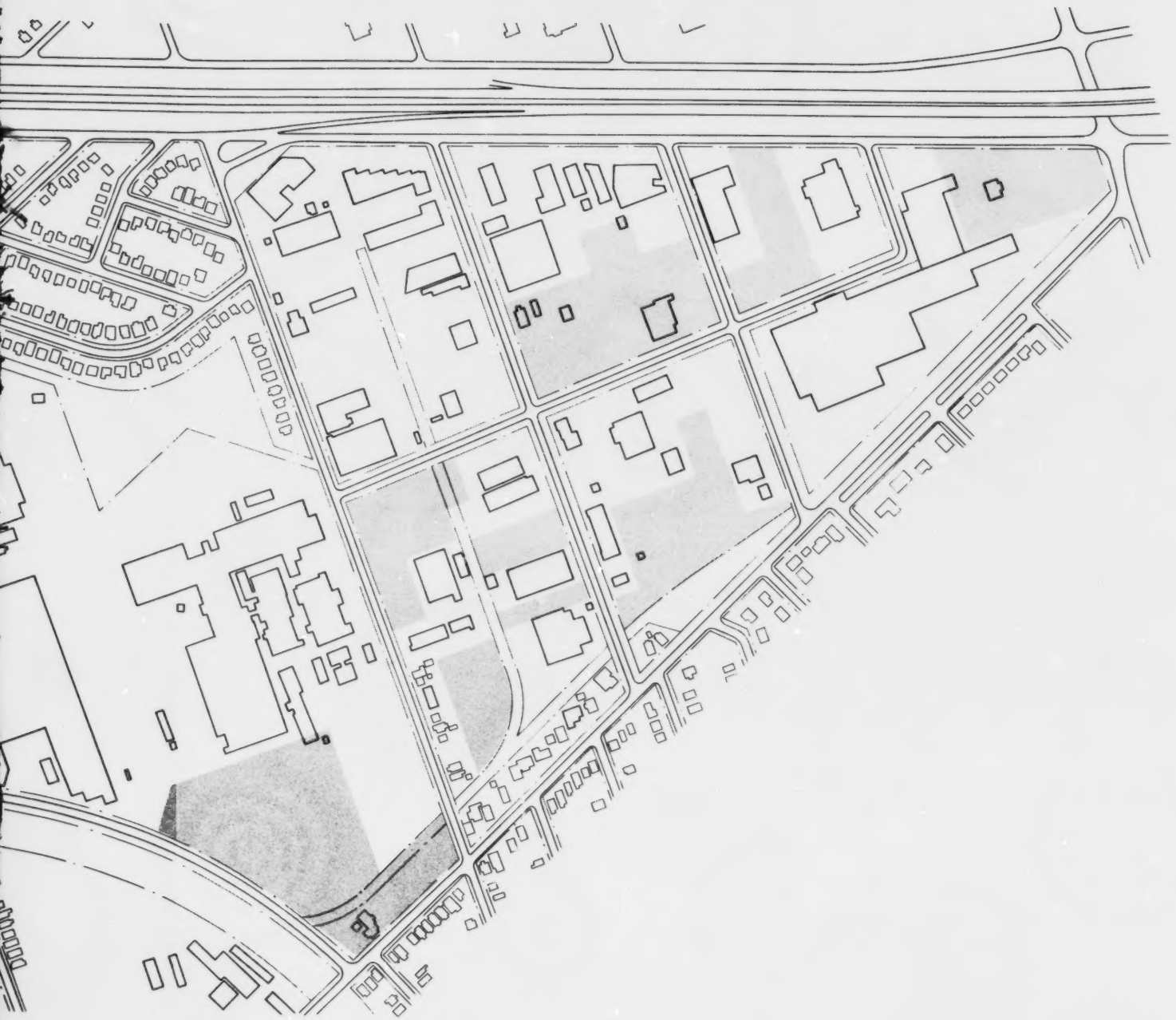
This option would allow for managed change of the area from industrial land use to some other type of land use activity. In moving through a period of land use transition, a number of considerations should be dealt with including:

- **developing a framework within the Official Plan to recognize the transition phase;**
- **mitigating impacts between the remaining viable industrial activity and the new land uses i.e. traffic flow, nuisance effects; and,**
- **providing a sound and rational way for a retreat from industrial activity using such tools as mixed zoning.**

### Revitalization

In the event that an area is judged to be viable for continued industrial use, council should give direction to the planning department or other identified agency to carry out the preparation of a Development Plan. The preparation of the plan will require close cooperation between public officials and private property owners. Cooperation is necessary to ensure that the range of individual and community interests are incorporated in the objectives of the plan.

*Figure 10*

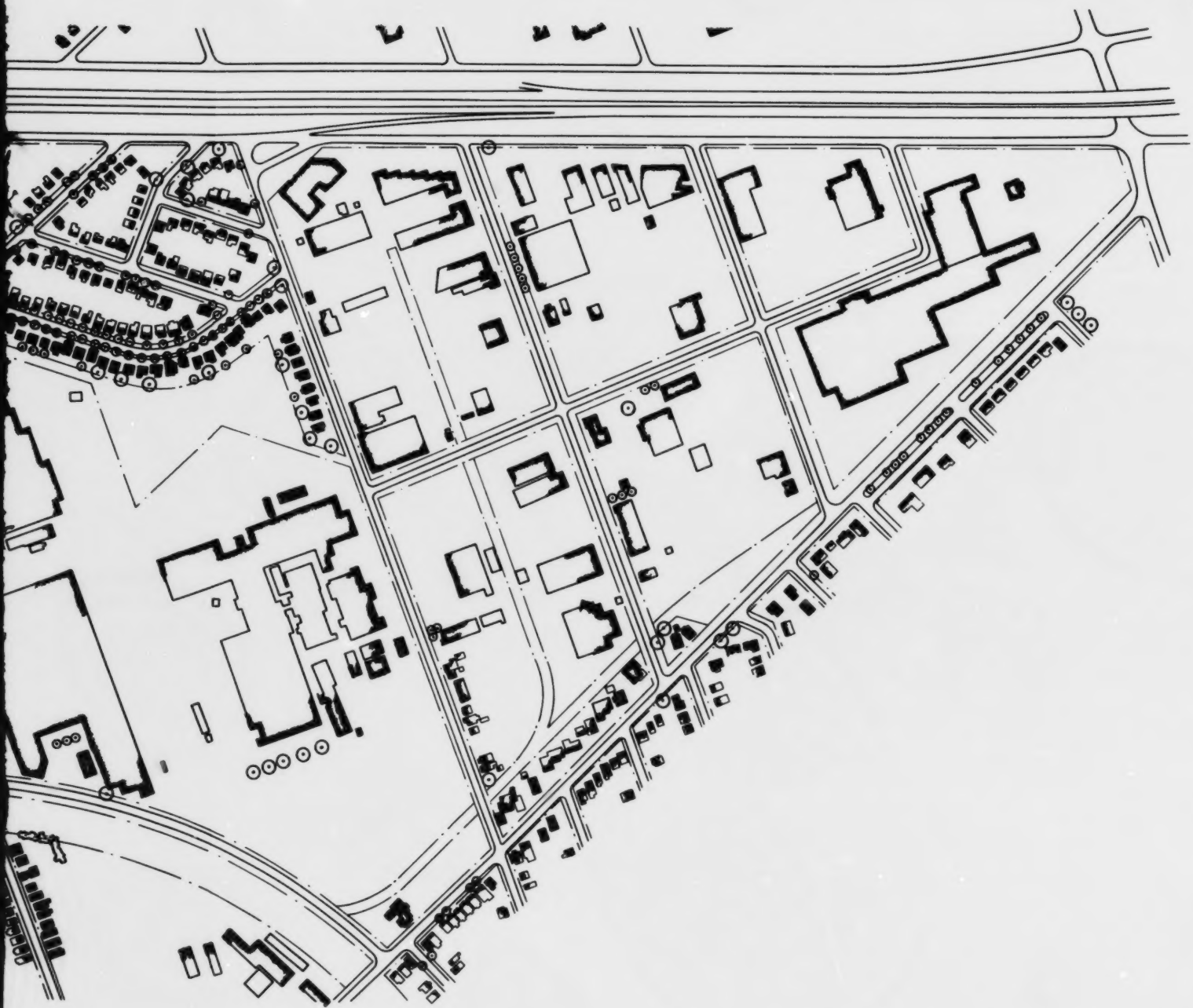


# Redevelopment Sites

0 50 100 300

Scale in Metres

*Figure 11*



# Existing Situation
# The Study Area

0 50 100 300

Scale in Metres

Additional Parking
Road Improvements
Water Improvements
Sanitary Improvements
Buffer/Edge Treatments
Access Control Improvements
Sidewalk Installation Improvements
Major/Minor Intersection Improvements

*Figure 13*

# Functional Improvements
# The Study Area

0 50 100 300

Scale in Metres

## What It Is

The Development Plan is used to consolidate and priorize the information gathered by the various demand, supply, infrastructure, building, and land use assessments. The Development Plan should be comprehensive and incorporate:

- An indication of which blocks or properties are to be encouraged to remain in industrial use and those that could undergo change to other land use;
- An identification of key redevelopment and intensification sites where private development could be anticipated;
- A priorized list of public infrastructure and image improvements directed at areas where private investment is probable;
- A marketing plan designed to illustrate the potential of the area to the industrial, real estate and economic development communities; and,
- A method for forming an industrial improvement association in the area made up of resident firms.

## Redevelopment Sites

Key redevelopment sites are identified in Figure 10. These sites are identified through:

- an analysis of vacant land and buildings;
- discussions with private owners about developing surplus land; and,
- redevelopment opportunities identified by the industrialists themselves.

Appendix D. provides a number of example redevelopment projects complete with conceptual design drawings and development cost estimates, in 1985 dollars.

## Functional and Image Improvements

The existing situation concerning the need for functional and image improvements is depicted in Figures 11 and 12*. As shown in Figures 13 and 14, functional improvements should be priorized according to the potential as identified in the redevelopment sites.

Functional improvements relate to the operational characteristics of the area. These are improvements that enhance the operational efficiency of the area for the industries already located there and include:

- road and intersection improvements;
- sewer and water system improvements;
- sidewalk improvements;
- street parking improvements;
- access control improvements; and,
- buffering industrial/residential edges.

Appendix E. provides an approach to the use of Urban Design principles to address the Image of an older industrial area.

Figure 15, The Development Plan (The Study Area) and Figure 16, Image Improvements, indicate the range of image improvements which, aside from making the area more attractive for existing firms, can contribute to the redevelopment of vacant lands and reuse of buildings. Image improvements should consist of:

- provision of public open space;
- coordinated signage programs;
- area identification and design control; and,
- landscaping and tree plantings.

## Municipal Marketing Initiatives

A marketing program should be developed for the industrial area. Marketing of the industrial area is both a public and private responsibility. The follow-

*Note that Figures 11, 13 and 15 represent the study area and that Figures 12, 14 and 16 represent a detailed street level portion of the larger study area.

ing list highlights various elements which should be considered by municipal officials and the local industrial community when developing a marketing program for an older industrial area.

- The industrial area should be recognized as part of the existing industrial land and building inventory. It should be identified as a potential location for industry within a community-wide industrial development strategy.

- The municipality should consider establishing an Industrial Improvement Association to involve the area's industrial community in implementing the Development Plan. Their continued input, feedback and ongoing support and discussion is critical to the implementation of any potential spin-off improvements arising from the Development Plan in the private sector.

- The initiative should realize that public improvements in the area should be driven by market potential (demand for space) rather than development potential (supply of space). Improvements carried out should have regard for the potential to influence the redevelopment of the area or significant improvement of existing firms.

- The municipality should consider the purchase of strategically located lands within the industrial area. These lands could be purchased to provide shared parking arrangements or to purchase open space to improve the image of the area.

- The municipality should provide development expertise to the industrialists through the community economic development office. This expertise would be provided to assist industrialists who would want to work up development proforma for their sites.

- This initiative considers creating an industrial identity and image for the area. An identity would provide a locational recognition that the area is in fact industrial in nature. Once the identity is created an image could be developed based on a specific theme for the area. This theme could be related to the major activities taking place within the area and/or a coordinated design theme throughout such as a signage program based on an improvement/design element or historical event/feature in the area.

- The marketing initiative should consider broadening the market search for industrial activities which might logically find the environment of the older industrial area to be adequate to meet their locational needs. These industries may include those that need proximity to market and access to well-developed existing transportation networks. In today's economy, many of these industries might be found in the evolving industrial/service sector.

- Municipal officials should consider assisting prospective users of older vacant industrial property by placing them in contact with local property owners, developers or the real estate community. The initiative provides a networking informational role for the municipality.

## Industrial Improvement Association

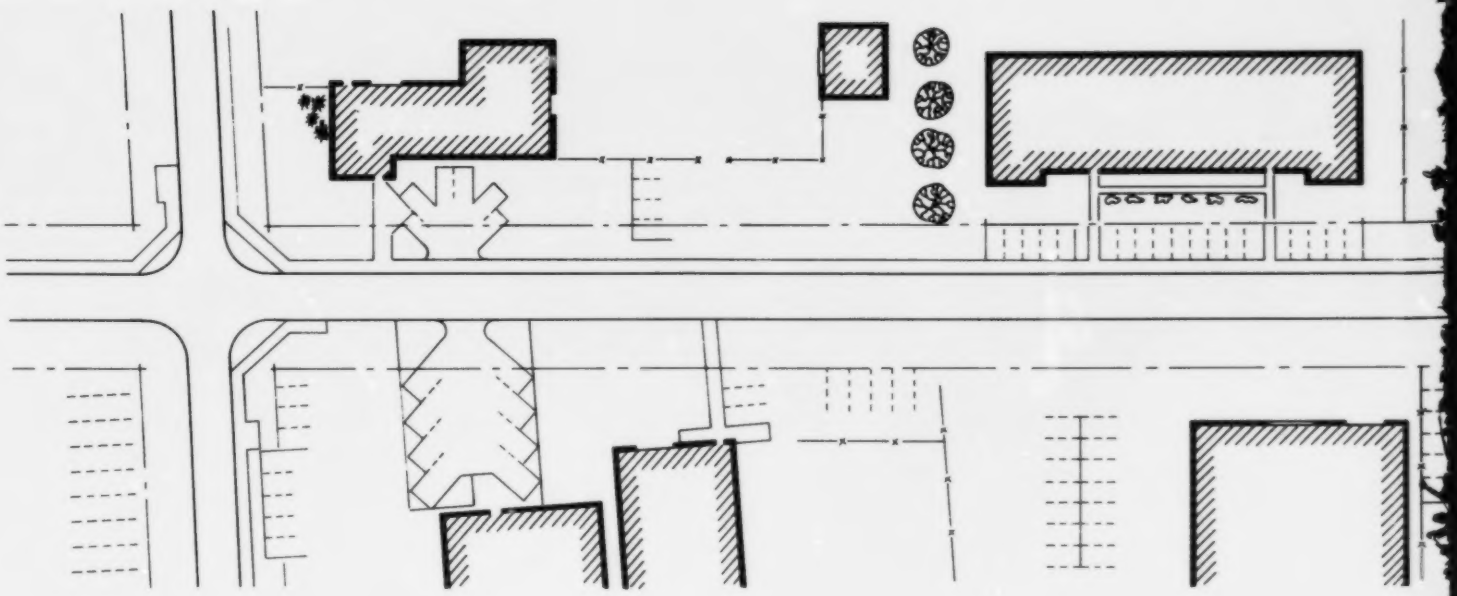
An Industrial Improvement Association could:

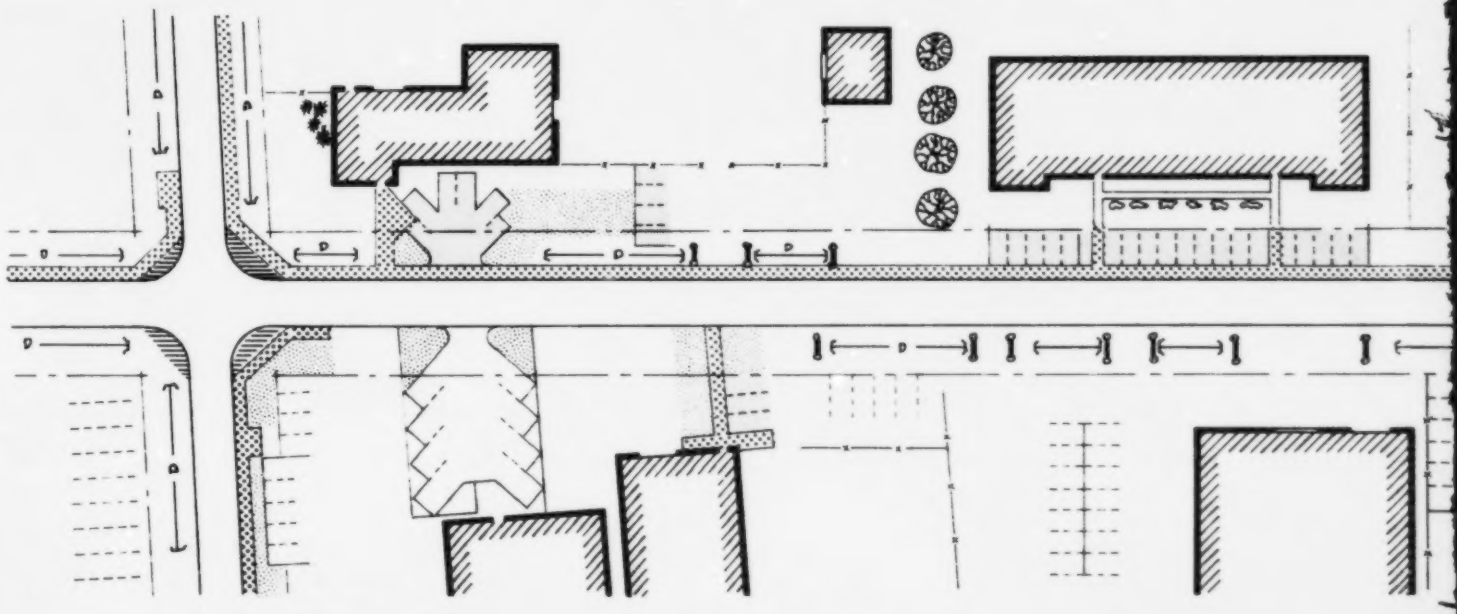
- Encourage property owners to improve the functional characteristics of their property where feasible in accordance with public improvements in the Development Plan. As well, it could review the corporate image of the area with regards to property maintenance and appearance of privately owned lands.

- Encourage other industry to locate in the area provided that the area meets their locational requirements such as proximity to markets, adequate labour skills, or access to existing transportation networks.

- Encourage local industrialists who have underutilized or vacant lands to consider their real land requirements for future expansion needs. Any lands not meeting their requirements could be offered for sale on the open market or to the municipality. The industrial property owner could also consider redeveloping the space by engaging a local developer.

- Act as a vehicle for an intelligence network so that if or when a business is about to close or open, the association would make it known to the industrial community.





Bollards / Signage

Shoulder Improvements

Sidewalk Improvements

Front Yard Improvements

Parking and Entry Improvements

## ETAILED STREET LEVEL

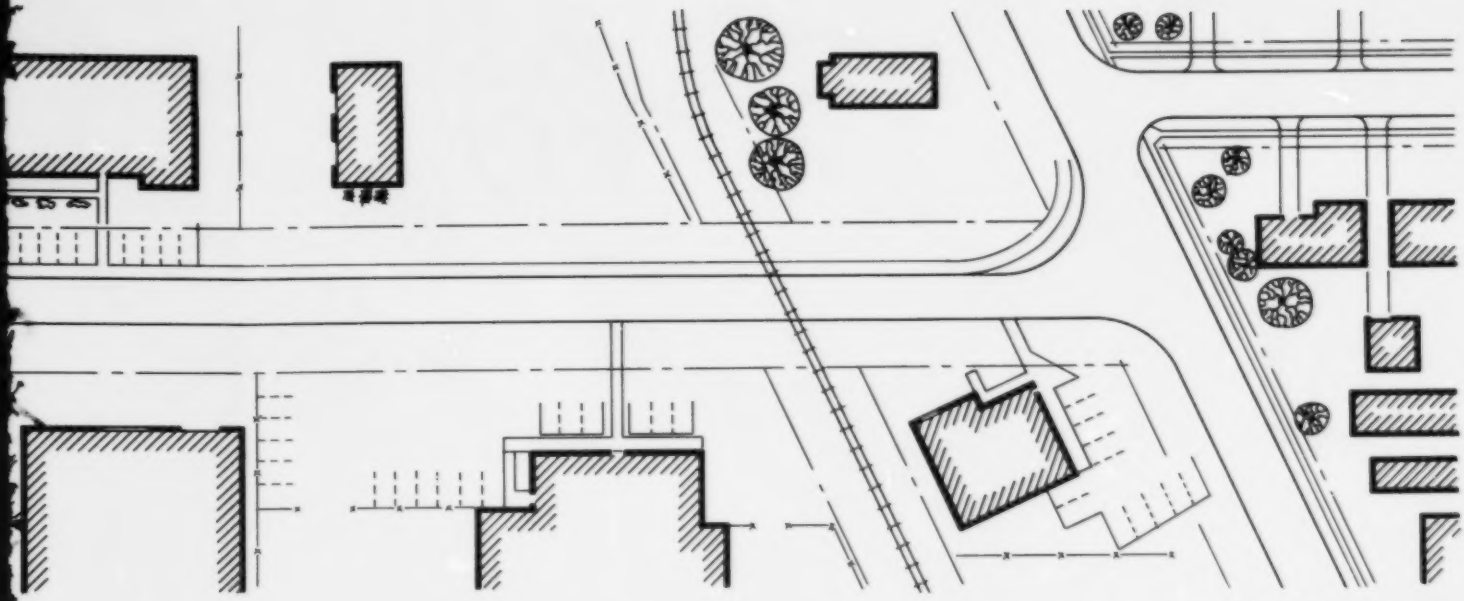


*Figure12* **Existing Situation**

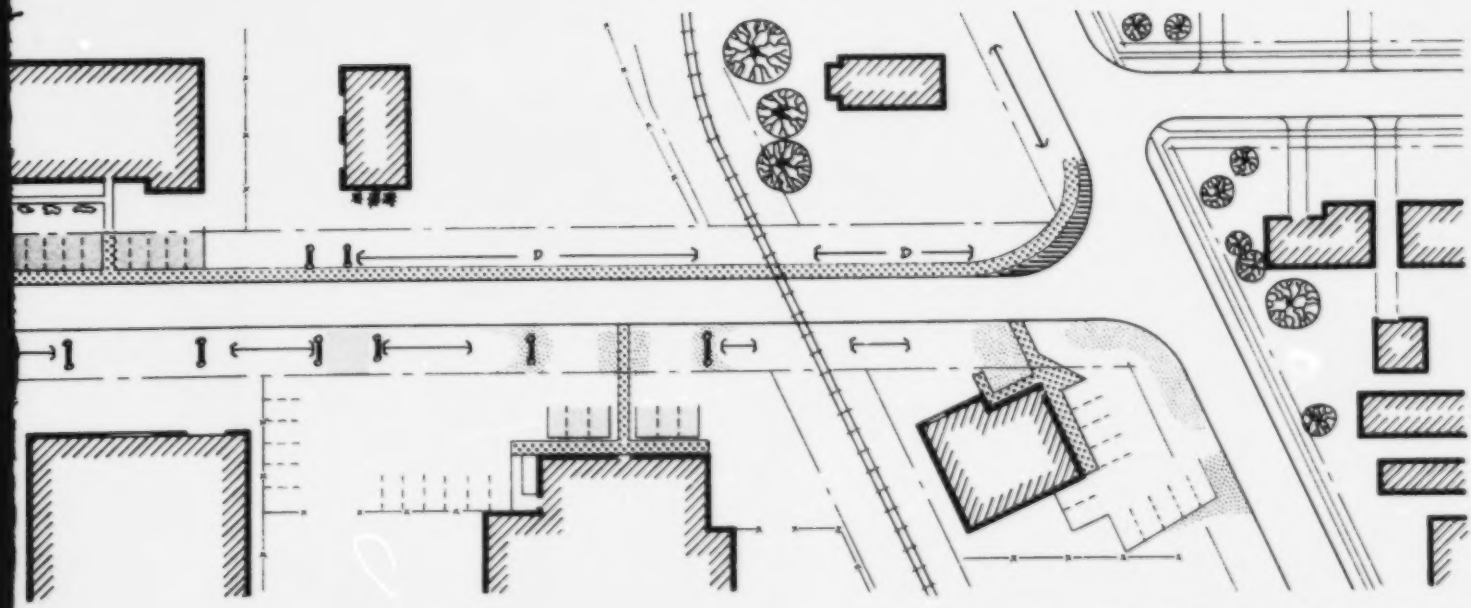
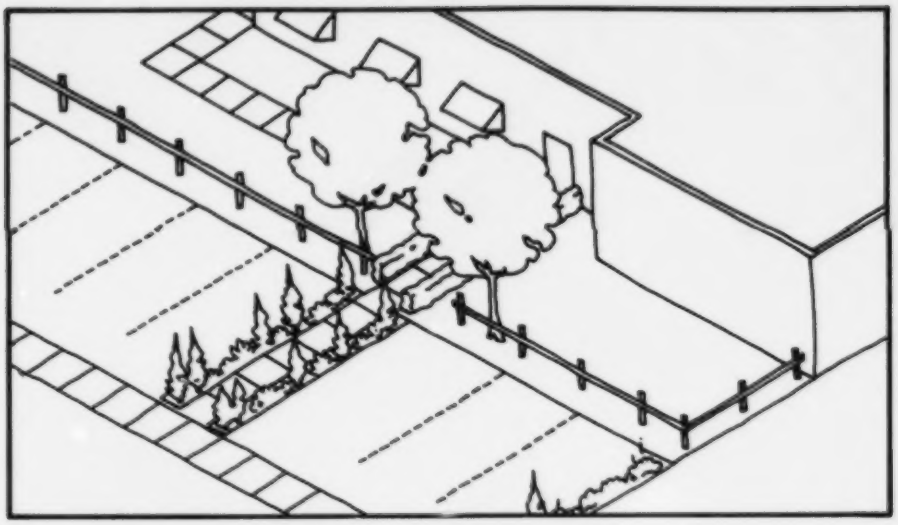
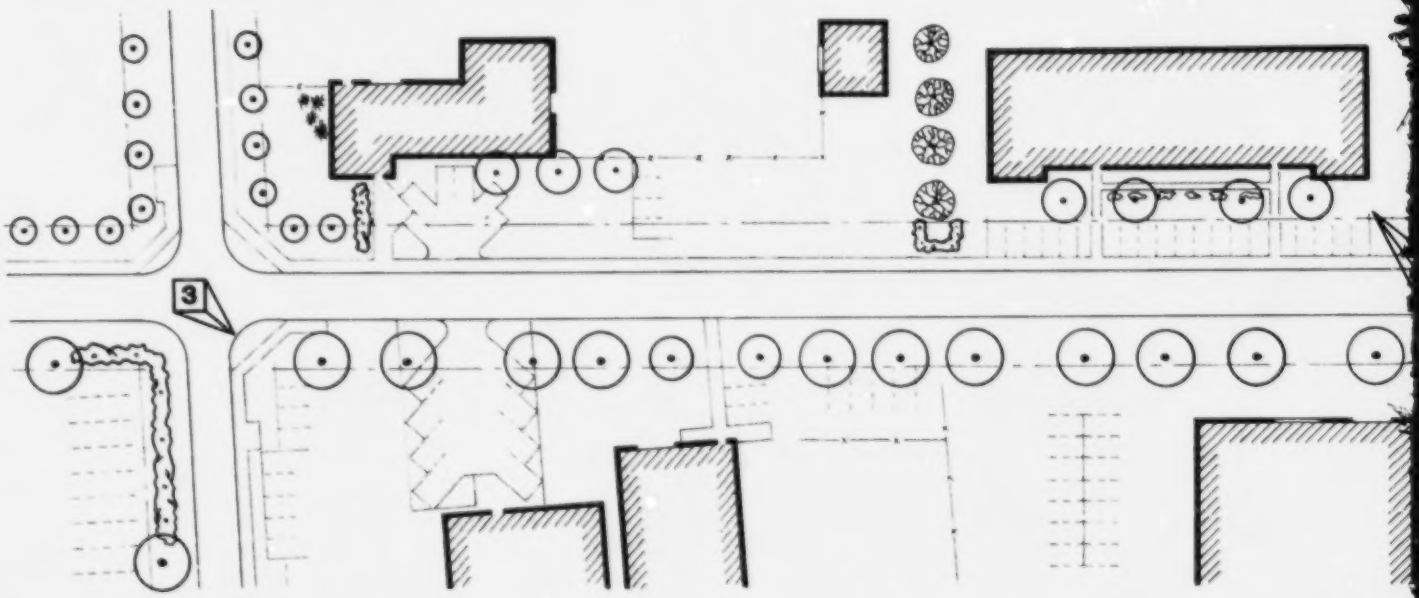
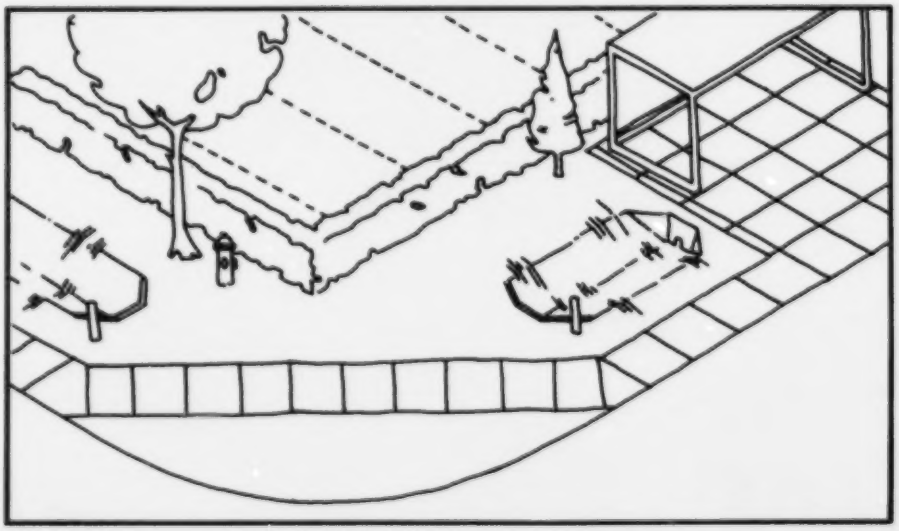


*Figure14* **Functional Improvements**

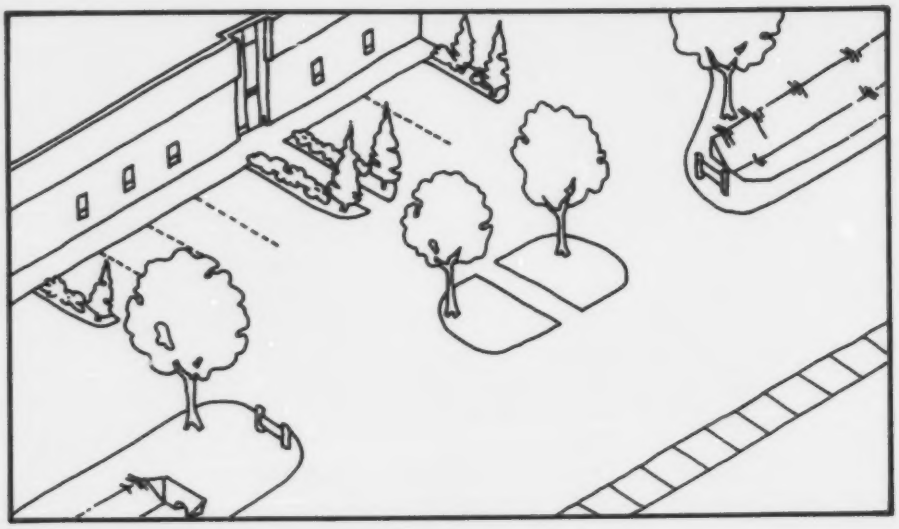


*1 Improved Public/Private Boundary*



*3 Corner/Curb Improvements*



2 *Parking and Entranceway Improvements*

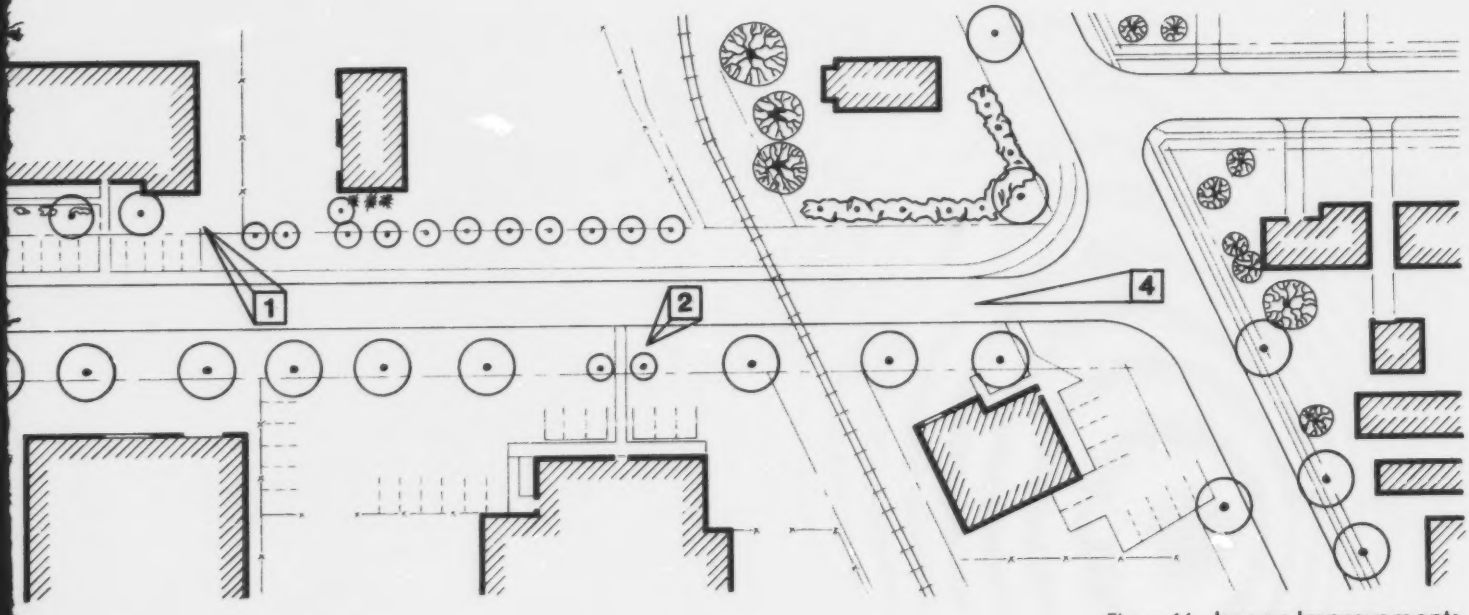
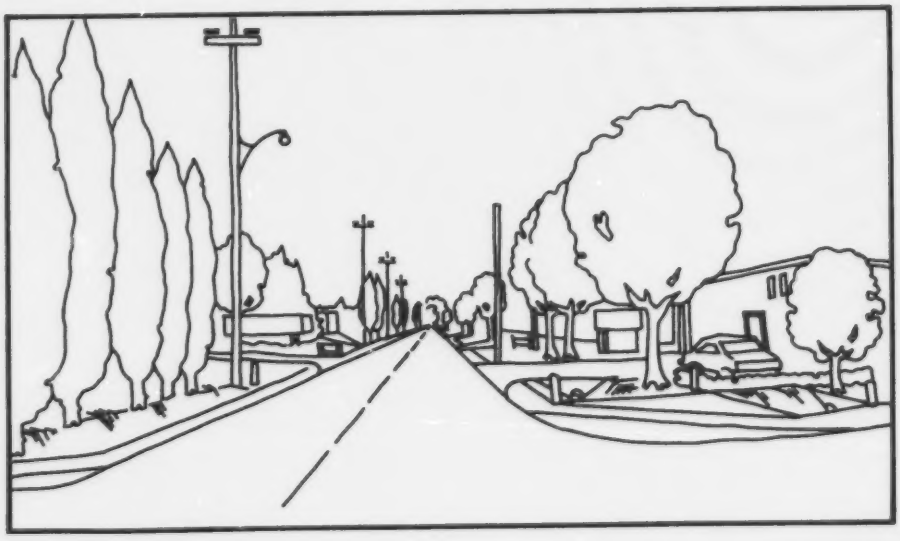



*Figure16* **Image Improvements**



4 *Street Image*

# 5. Approve and Implement

This section of the report is divided into three areas of importance. These are as follows:

- **Municipal planning provisions;**
- **Public expenditures; and,**
- **Ongoing maintenance.**

## Municipal Planning Provisions

### The Official Plan

The existing municipal planning process will have an important bearing on how the industrial revitalization initiative as detailed in the Development Plan will be carried out. While this will vary in detail from municipality to municipality, the main techniques will not and will primarily consist of the municipal official plan and implementing tools.

To start with, the official plan itself should be reviewed to determine whether existing policies in the plan hinder or encourage the principle of industrial revitalization. In particular, does the plan place undue emphasis on development of new industrial areas and overlook opportunities for the revitalization of older industrial areas in the community? If this is the case, then the official plan should be revised to provide a balanced approach to industrial land use and development in the community.

Official plan policies should be also reassessed to determine whether they recognize the shifts that are taking place in the use of industrial lands. In general, the structure of the Province's economy has changed and this is reflected in the increase in employment in the service/manufacturing component of many local economies.

Secondly, any general land use policies which address the following concerns should be reviewed:

- compatibility of commercial and residential uses in industrial areas;
- compatibility of residential and commercial land uses in proximity to industrial areas;
- access to older industrial areas;
- rehabilitation of lands and buildings in industrial areas;
- reuse of sites within industrial areas; and,
- servicing policies.

Finally, while this report does not presume to prescribe any one particular approach to municipal implementation of the Development Plan, key elements of the Plan should be incorporated into the local official plan. This may be done in a number of ways including:

- adoption of the Development Plan as an amendment to the official plan, possibly as a secondary plan;
- amendment of the official plan to reflect any change of designations and supporting policies required by the Development Plan while retaining the Plan itself as a reference document; or,
- where the existing planning policies and designations would already accommodate the components of the Development Plan, incorporation of more specific policy provisions for selected aspects of the Development Plan such as upgrading of infrastructure or landscaping provisions and to allow the use of a number of the more specific tools as provided for in the various Sections of the Ontario Planning Act, described below.

### Community Improvement - Section 28

In addition to the official plan itself, Section 28 of the Planning Act makes available to municipalities a range of powers which could be used to implement the Development Plan. The use of these powers is subject to the incorporation of community improvement policies into the municipal official plan, the designation of the area as a community improvement project area and the preparation of a community improvement plan, (which could take the form of the Development Plan), for the project area. The powers under Section 28 include:

- acquiring and holding land within the designated project area;

- clearing, grading and preparing the land for improvement activities;

- constructing, repairing and rehabilitating buildings on the land that has been acquired by the municipality; and,

- leasing, selling or disposing of the lands in conformity with the community improvement plan.

If, for instance, the Development Plan identifies that a key industry needs additional land to expand and, in so doing, would stabilize the area, Section 28 could be used to assemble the required land and subsequently to convey the land to the industry. In this way, one of the major objectives of the Development Plan would be achieved.

Section 28 also allows municipalities to make grants and loans to private property owners for the purposes of improving private property. A program of private improvement could be tied to the priority areas identified for public improvement.

A key point to remember is that Section 28 of the Planning Act provides a clearly identified process and related powers to implement many aspects of the Development Plan.

### Zoning By-laws - Section 34

It is important to ensure that zoning provisions are appropriate for the kinds of development that might be expected in older industrial areas and that they do not impose unreasonable or unrealistic constraints.

As an example, at some point in the past a municipality may have determined that ultimately an area would be redeveloped for non-industrial uses and zoned the area for those future land uses. The effect of this would be to make any existing industrial operations legal non-conforming uses. If, through the process recommended in this report, the municipality decided that the area should remain as industrial and amended its official plan accordingly, then the zoning by-law would also have to be revised.

Even in instances where the zoning is generally appropriate for continued industrial uses, there may be unnecessary constraints imposed on the implementation of the Development Plan because of specific standards and provisions in the by-law. This could arise where the by-law is based on the historic character of industrial development in the community and does not recognize changes in the nature of industrial operations. For example, setback and coverage ratios which at one time may have been realistic may now be inappropriate.

### Holding By-laws - Section 35

Provided that suitable enabling policies are included in the official plan, holding by-laws can be used to control the timing of the development of redevelopment of specific properties in an older industrial area. Where the municipality wants to ensure that certain conditions are met before the property is developed or redeveloped, it can employ the holding provisions contained on Section 35.

For instance, a large mature company may have a surplus of land for its purposes and may wish to make some of its vacant property available to others. It might be determined that the most appropriate use of the parcel would be for light industry, not heavy industry as it is currently zoned. However, there is a need for upgrading of the roads and sewers for the parcel. In this situation, the municipality could proceed to rezone the parcel from heavy to light industrial but attach a holding provision as part of the rezoning by-law. In this way, the intended use of the parcel is indicated by zoning but development cannot proceed until specified conditions have been met. In this example the conditions might be:

- provision of upgraded road access and sewers;

- a marketing plan to address phasing of the development; and,

- a site plan agreement under Section 40.

These provisions would allow a prospective developer of the parcel to go ahead with a number of his plans such as obtaining the financing necessary but places control of the timing of the development in municipal hands.

### Interim Use By-laws - Section 37

The interim control by-law, authorized by Section 37 of the Planning Act, provides a means of temporarily restricting development within an older industrial area while the municipality conducts a review

of its planning policies for the area. This would be particularly important in areas where the current official plan policies and zoning provisions anticipate redevelopment to other uses. Within the maximum period of two years provided by the Act, the municipality would be able to draw up a Development Plan for the industrial area without threat of losing either parts of the area or the area in total to other types of uses by "suspending" the existing official plan policies and zoning provisions.

### Temporary Use By-laws - Section 38

Temporary use by-laws can be used to zone lands to a temporary use for a period of three years. In the case of the Development Plan, a temporary use by-law could be used to resolve the issue of off-street parking. For example, a parcel of land could be designated for shared parking until lands are provided on private sites to accommodate employee parking. Once the parking has been provided by the private owners the land would revert to industrial use.

### Site Plan Control - Section 40

Site plan control provides a very important and flexible tool to a municipality to implement many of the features of a Development Plan by providing for the submission of a site plan for any new development or redevelopment within an area shown or described in the official plan for site plan control. Not only does the municipality have the power to approve a site plan, but it can also require an agreement that would cover many aspects of the site plan such as:

- facilities to provide access to and from the land such as access ramps;
- off-street vehicular loading and parking facilities;
- walls, fences, hedges, trees, shrubs or other groundcover or facilities for the landscaping of the lands or the protection of adjoining lands; and,
- grading or alteration in elevation or contour of the land and provision for the disposal of storm, surface and waste water from the land and from any buildings or structures.

One caution that should be raised, however, is that any use of site plan control should be consistent with the nature of the area as industrial and designed to ensure that the improvements required by the agreement are not excessive.

## Public Expenditures

### Approval of Implementation Budget

Once the Development Plan is adopted, the municipal council should direct the various municipal departments to priorize the elements of the Development Plan and develop a budget. Once this budget has been ratified by municipal council, and any provincial funding or approvals granted, implementation of the Development Plan can proceed.

### Designate Project Manager

A project manager should be designated and charged with implementing the Development Plan. The project manager could be a staff member of the municipal planning department or another qualified individual having the necessary experience with plan implementation.

The primary management responsibilities of the Project Manager would be to:

- act as a municipal contact for the industrial property owners;
- ensure coordination between municipal departments in carrying out plan elements; and,
- act as a liaison between municipal and provincial levels of government and the general public.

### Capital Works Budget

Capital improvements identified in the Development Plan will have to be considered in light of the capital budget for the municipality. A certain amount of reorganization of priorities may have to occur depending on the priority which council has given to the implementation of the Development Plan and improvements identified in it. This is where coordination and priority setting across various municipal departments will be required. Major trade-offs may have to be made between spending municipal funds for additional servicing of new suburban areas as opposed to improvements to existing industrial areas.

In the case of urban municipalities that are basically land locked with no new vacant land to develop, phasing of redevelopment whether it be residential, commercial or industrial improvements will have to be made. This involves the coordination and phasing of improvements in the Development Plan relative to other improvements or capital projects the municipality may be undertaking in other parts of the community.

### Provincial Assistance

Provincial funding programs are available to assist with the upgrading of municipal services (replacement and maintenance). The details and description of these programs is updated annually in the report, "Provincial Financial Assistance to Municipalities, Boards and Commissions" published by the Subsidies Branch, Ontario Ministry of Municipal Affairs.

## Long Term Maintenance

### Property Standards By-law

It is important to ensure that private property is maintained in an area where public investment and improvements are being made as part of the implementation of the Development Plan. It is important that the municipality work closely with the industrial improvement association to encourage private owners to maintain their properties, and hopefully improve the overall image of the area in order to attract additional private investment.

However, the municipality should ensure that it has the legal means to require private property maintenance. It is therefore advisable to have a property standards by-law in place to give the municipality the appropriate legal powers to enforce property maintenance. Section 31 of the Planning Act provides for the establishment of and administration of a property maintenance and occupancy standards by-law. Many municipalities will already have such a by-law in place, but it may not cover older industrial areas. In addition, a municipality may not be enforcing its by-law in these older industrial areas. Accordingly, as part of the review of what means are available to provide for private property maintenance and improvement, a municipality may have to consider amending its existing by-law, or reviewing its enforcement policy.

It is important for a municipality and private property owners to work closely together to develop a schedule for the long term maintenance of an area. Therefore dialogue between the two parties on this issue should begin early in the process.

### Economic Development Program

The current community economic development program or strategy may not include older industrial areas as part of the industrial land and building inventory. As a result, there may be a number of market opportunities lost to encourage the reuse of these resources to support some type of continued industrial use. By including these areas in the industrial land and building inventory, a more balanced approach may be achieved to directing growth to areas having the best locational characteristics for a particular type of industry, whether they be newly created industrial parks or sites within older established industrial areas.

### Industrial Improvement Association

The formation of an Industrial Improvement Association would allow the private sector to be actively involved with the implementation and the long term management of the Development Plan. Continued private sector input to the ongoing marketing and maintenance of an area may be critical to realizing the benefits of industrial area revitalization.

# 6. Monitor

The progress of the Development Plan should be monitored by both public and private sector interests from three aspects. These are:

- **Phasing of infrastructure improvements;**
- **Maintenance of industrial land use; and,**
- **Economic impact.**

## Phasing of Infrastructure Improvements

The monitoring of the infrastructure improvements should be based on ensuring that the functional improvements are carried out first. These should be followed by improvements that will make the identified development sites more marketable, and, finally, by those improvements which will enhance the design and image of the area as a whole. As well, it is important that any necessary adjustments be made to the Development Plan to reflect any opportunities that may have not been anticipated such as the closure of a large manufacturer leaving a large amount of space available for sale or lease.

## Maintenance of Industrial Land

One of the major reasons for revitalizing an older industrial area is to ensure that existing industrial land is maintained in long term industrial use. How the land is used should therefore be monitored and this would include:

- applications for minor variances and wholesale rezoning to other types of land use, (indicating pressure for redevelopment);
- the ease of enforcement of property maintenance by-laws (indicating private interests in maintaining the industrial land use); and,
- building permit activity (indicating the internal use of the building space and whether more space is being used for manufacturing or say repair operations).

## Economic Impact

Four areas of economic impact should be monitored from a municipal point of view. These are:

- change in the number of persons employed in the older industrial area;
- change in the dollar value of building permits issued in the area;
- change in the assessed value of the industrial properties in the area; and,
- change in the rate of turnover of industrial properties.

These types of indicators will provide an indication of the success of the area revitalization initiatives over the longer term. Thus it is important that the data base developed in the initial evaluations of the older industrial area be kept current and updated on a regular basis such as once every year, in order to monitor the success or failure of the plan to meet its stated economic objectives.

## Where To Get More Information

**Write to:**

**Community Renewal Branch**
Ontario Ministry of Municipal Affairs
13th Floor, 777 Bay Street
Toronto, Ontario
M5G 2E5

and in your local area:
**Community Planning Advisory Branch**
Ontario Ministry of Municipal Affairs
Offices located in:

CPAB – Central Region (Willowdale)
2nd Floor, 47 Sheppard Avenue East
Willowdale, Ontario
M2N 2Z8

CPAB – Northeastern Region (Sudbury)
4th Floor, 1191 Lansing Avenue
Sudbury, Ontario
P3A 4C4

CPAB - Northwestern Region (Thunder Bay)
1st Floor, 435 James Street South
Thunder Bay, Ontario
P7C 5G6

CPAB – Southeastern Region (Ottawa)
3rd Floor, 244 Rideau Street
Ottawa, Ontario
K1N 5Y3

CPAB – Southwestern Region (London)
7th Floor, 495 Richmond Street
London, Ontario
N6A 5A9

# Appendix A

## Older Industrial Areas: The Context

### Introduction

In the past 10-15 years, we have witnessed in Ontario a major trend which affects the type of work we do and where we work. The number of persons employed in "traditional blue collar jobs" associated with primary and secondary manufacturing is diminishing in relative proportion to the total Ontario labour force. Conversely, employment in "grey collar" or service sector employment represents a larger proportion of the labour force. (see Table A1).

This growth in employment in the service sector has a direct relationship to planning and replanning the physical use of land to accommodate community economic growth and change. These shifts directly affect the way in which land is used as a resource for employment generation within communities. As a result, it is desirable to understand how these changes will affect land which is used for industrial purposes especially in older established industrial districts.

### Historical Trends

Although the development of industrial activity represents a continuum over time, for analytical purposes we have divided this continuum into three time periods. These are used to describe industrial trends in terms of:

- changing locational needs of industry
- trends in industrial employment
- the evolving manufacturing process
- types of building construction
- market factors used in locational decisions
- implementation of planning controls in industrial areas

### 1880 until 1940's

From the 1880's until the 1940's, industrial activity was located adjacent to water and rail transportation networks. In most cases, these sites provided large tracts of land and were to a high degree located in "greenfield" situations on the periphery of the core of the community. Access to these transportation routes was a dominant criterion in the locational decisions and site selection process of industry. During this period industrial activity generally meant primary and secondary manufacturing including such industries as tanneries, shoe manufacturers, steel producers, heavy machinery, woollen-knitting mills, foundries and machine shops. In general, these industries used a lower level of manufacturing technology than what is currently available today. The labour force requirements of these industries were heavily labour intensive. They employed unskilled and semi-skilled workers to carry out distinct job tasks within their manufacturing operations.

*Table A1* **Labour Force by Industry Groups, 1971-1981**

| | 1971 | | 1981 | | % Change |
|---|---|---|---|---|---|
| | N | % | N | % | |
| Primary | 151,010 | 4.5 | 201,825 | 4.5 | 33.7 |
| Manufacturing | 819,335 | 24.3 | 1,055,565 | 23.6 | 28.8 |
| Construction | 205,785 | 6.1 | 249,585 | 5.6 | 21.3 |
| Transportation | 222,010 | 6.6 | 319,105 | 7.2 | 43.7 |
| Trade | 497,560 | 14.8 | 743,665 | 16.6 | 49.5 |
| Finance | 155,510 | 4.6 | 260,570 | 5.8 | 67.6 |
| Service | 787,255 | 23.5 | 1,278,150 | 28.6 | 62.4 |
| Public Admin. | 247,455 | 7.4 | 311,540 | 6.9 | 25.9 |
| Not Applicable | 239,095 | 7.1 | 44,040 | 1.0 | -81.6 |
| TOTAL | 3,354,360 | | 4,464,050 | | 33.1 |

Census of Canada, 1971, Ont 501e
Census of Canada, 1981, 93x942

Many of the industrial buildings constructed in this era were built of brick and early reinforced concrete construction. In multi-storied buildings, heavy wooden timbers and concrete columns supported upper floors. Reinforced concrete slabs may have been poured over top of wooden floors for added strength. In single-storey buildings, wooden timbers formed the column supports. Because of wooden construction using timber rafters, the spacing between columns was narrow and ceiling heights were quite low.

At the same time, it is important to realize that those areas where industry located were to a great extent desirable for other reasons. Access to suppliers, availability of an adequate labour pool and costs of land were important factors. For example, the close proximity of residential areas and the general lack of personal mobility created readily available labour pools for industry to draw on. In some cases, industry attracted residential development through the provision of company housing. At other times, the residential element simply followed in an outward pattern engulfing the industrial area.

In the absence of legislated land-use planning controls, growth occurred in an unplanned fashion. Prior to the 1940's, building setback distances, the use of the land, and the zoning of specific types of industrial land use, were not necessarily municipal considerations in the development process. Employment opportunities were important and municipalities provided infrastructure to support these locations with public transit, water, sewer, hydro-electric power and gas services.

## The 50's and 60's

The 50's and 60's marked a change in the transportation mode for most industrial activity to transport truck movement of goods. Industries previously heavily dependent upon rail and water transport were now attracted to this new mode in order to widen their locational choices. Essentially, industry became free to locate in proximity to the evolving highway network connecting communities or on major arterial roads within communities.

Following World War II, the face of industry was changing. As we entered a period of rapid growth, characterized by increased levels of consumer spending, manufacturing activity became highly diversified into a range of consumer goods not yet thought of. Assembly line technology was rapidly being adopted in all types of manufacturing operations. Employment became centred on providing semi-skilled/skilled workers in the manufacturing process. There also was a proportionate increase in the number of the white collar workers to support the manufacturing process.

As a result of the new manufacturing technology in industry the types of structures and the amount of land they consumed changed.

The space extensive single storey plant, based on a linear production process, became commonplace. These buildings were constructed of concrete block and structural steel. Sawtooth windows provided overhead natural lighting. Column widths increased using structural steel columns to support roof decking. The amount of land used by industry increased as a result of rise in personal mobility, thus necessitating the addition of sufficient space for employee parking. In addition to land required for future plant expansion, land was purchased for this function.

By the 1950-60's, planning controls were beginning to be formalized through official plans and zoning by-laws. Municipalities began to implement the concept of land use separation into industrial, commercial and residential use categories. Within the industrial classification, the use was further separated into light – medium – heavy. Building setbacks, outdoor storage space and employee parking were being recognized as discreet requirements in industrial areas.

From a market perspective, industry still demanded access to adequate labour pools, local markets and municipal services. However, through improved local transportation networks, and increased population growth and worker mobility, these needs were becoming less of a locational issue within the context of the urban setting.

## The 70's and up until today

From the late 1960's through to the 1970's, the locational choice for new industry was confined to either newly created industrial parks or to greenfield sites completely outside of the built up urban area. From a market perspective the industrial park allows industry to acquire sufficient land for expansion and to maintain an image in an attractive, controlled, parklike setting. The greenfield site on the other hand takes advantage of less formal regulation and control, but provides ample space for future expansion.

At the same time that these lands were accommo-

dating relocating industries or new development, changes were taking place in terms of industrial location decisions. The nature of manufacturing employment had begun to change. Employment in industry today consists of a large "grey collar" component. These occupations include laboratory technicians, computer technologists and non technology related repairmen. As a result, the movement to a service economy has meant that many non-traditional near manufacturing industries are seeking industrial land use locations. This factor in itself has meant that a number of non-traditional industrial activities do not nicely fit into the light, medium and heavy industrial categories developed for industrial park occupants.

As well, a number of the near manufacturing concerns are more oriented to serving firms, households and individuals, than a national or international market place. Therefore, exposure to their market place is sometimes lost when they are forced to locate in industrial parks on the periphery of a community.

However, industrial parks continue to be the focus of the municipal efforts to attract industrial development to the community or to relocate existing industry from within.

These parks generally, are located to take advantage of the existing transportation network, which has constantly improved over time. Besides the physical improvements to the transportation widths of roadway, new technology has made it possible for even larger transport trucks to be accommodated in these new industrial parks.

In developing industrial parks, municipalities have attempted to serve a large part of the market place for new industries seeking industrial locations by providing municipal services, proximity to residential areas, and adequate land for expansion. The implementation of site plan control in new industrial areas has attempted to deal with the appearance of buildings, landscaping of the property and the bulk and height of buildings, to maintain consistency of appearance and construction materials and to address the concerns of image and appearance.

# Appendix B

## Types of Industrial Buildings

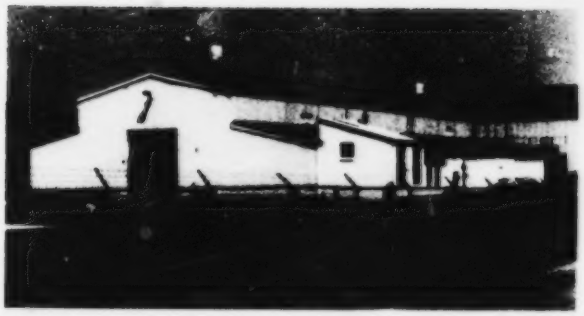
### Introduction

As part of each case study analysis, a structural engineer surveyed the interior and exterior construction and condition of the buildings found in the study areas. (The form used to carry out this assessment is attached at the end of this appendix.) Areas within the cities of St. Catharines, Welland, York, Peterborough, North Bay, and Cambridge were chosen as case municipalities for the study as they were found to be representative of older industrial areas in terms of size, geographic location, municipal organization, age of industrial areas and industrial mix. The following classification of building types was developed as a result of that process. The information provided is to assist you in determining the types of activities which you may wish to investigate using various types of older industrial buildings to meet their own particular industrial process requirements. The five most common types of buildings found in the older industrial areas are:

- gable or cupola buildings
- barn type buildings
- sawtooth buildings
- multiple storey buildings
- box type buildings

### Gable or Cupola Buildings

Gable or cupola structures were popular and functional structures in the 1908-1920 period particularly for heavy traditional manufacturing activities such as the primary metals, fabricated metal products and machinery industries. The characteristic roof line of such structures includes sloped roofs, and a central spine that is higher than the balance of the roof acting as a chimney for the exhaust of fumes and sending natural light onto the shop floor. The central spine is a high bay ranging from 7.62m to 12.19m (25 feet to 40 feet) in height where the largest of assembly functions takes place. The lower bay portions on either side of the high bay are 3.65m to 6.09m (12 feet - 20 feet) in height and traditionally served as areas of staging and sub-assembly and smaller manufacturing. This traditional relationship of activities is not as strong in the current industrial utilization in these buildings.



*Gable or Cupola Building*

The buildings are typically made of structural steel although some timber columns and beams were found in smaller and older examples. The structural steel often supported internal cranes for movement of materials and products within the plants. The roofing material was either a steel or timber deck depending on the age of the structure and generally they are not insulated. Bay size in the buildings ranged from 6.09m x 7.62m (20 x 25 feet) to large spans of 12.19m x 15.24m (40 x 50 feet) in the largest and most recent examples. The buildings were finished in a variety of perimeter cladding. Older examples were masonry finished with either concrete block or brick with some newer examples of metal siding. Some of these buildings also had windows on the perimeter walls. Of those with wall windows many had covered windows for energy conservation and to prevent vandalism.

Lighting in these buildings ranged from poor to adequate. The traditional cupola windows in many structures were inoperable and now covered. In some cases the chimney function of the cupola was no longer required as fume exhaust was removed by exhaust fan ducts at the top of the cupola portion. In a minority of the cases the traditional windows and venting systems were still in place and in good operable condition. Wall insulation in these structures was absent with most firms using natural gas for heating either with local heating units distributed throughout the plant or infrared heating of the shop floor. Floors in most of these buildings were reinforced concrete with a few being dirt floors.

These buildings had widespread use in heavy manufacturing including foundry operations and metal fabrication shops. The buildings were little more than shells to keep the inclement weather away from workers and the production process.

Insulation was not and still appears to be of little concern to these firms as the foundry operations in particular release large amounts of heat from the process warming the surrounding environment. Also of general note, the buildings are often very dirty and sooty after many years of forging, foundry, welding and similar activities.

The buildings generally appear to be in satisfactory structural condition. Building owners did not express major concerns respecting the structures but rather stressed the high capital costs sunk in the facilities in terms of equipment and their desire to remain in the area. Relocation of these users appeared out of the question from the industrialists point of view.

### Barn Type Buildings

Barn type structures have been employed throughout the last century to enclose large spaces with a minimum of columns. These structures are often associated with warehousing and storage activities such as building supply centres. The characteristic roof line of such structures resembles a barn and is supported by a truss system to achieve spans of 9.14m to 15.24m (30 to 50 feet). The building is utilitarian in nature with most or all of the space intended for the storage function. A few such structures were evident throughout the survey.

The buildings were typically made of wood throughout including timber columns, beams, trusses and a timber deck roof. Structural steel elements were relatively rare although some buildings had been strengthened with steel columns since their initial construction. Alternate roofing materials were a steel or tin decking. Many of these structures were constructed either as column free space or with only one row of columns. This provided maximum flexibility for the storage, handling and shipment of bulky materials. With a truss system the bay sizes ranged from 15.24m x 30.48m (50 feet x 100 feet). The buildings were generally finished either with wood framing and siding or concrete block.

The perimeter walls had some windows although in some cases they had been removed and filled in for energy and security reasons. Lighting in these buildings relied principally on artificial lighting of poor to moderate quality. The modest lighting may have restricted the type of use of the structure – namely the storage of bulky materials.

Wall and roof insulation was absent in most of these premises as the building was designed primarily to keep materials dry and secure.

*Barn Type Building*

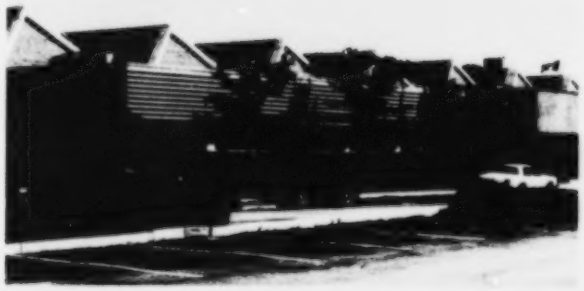
Heating was provided by gas-fired heaters although the heat level was designed only to take the extreme cold from the air. Employees in these types of buildings were observed wearing warm clothing. Large garage doors were opened frequently for the loading and unloading of goods. The floors of these buildings were reinforced concrete. The buildings were usually at grade with loading and unloading activities taking place with forklift trucks from transport trucks. One or more large garage doors were centrally located to this loading function. The sites were usually located on rail spurs but the rail had not been utilized for 10 years. Such structures were usually surrounded by outdoor storage areas for equipment or materials.

These utilitarian buildings were designed to be inexpensive to build and operate. It appears that the structures are in satisfactory condition with a minimum of regular maintenance being carried out.

### Sawtooth Buildings

Sawtooth buildings resemble their namesake – that of a sawblade with the serrated edge facing upwards. This unique roof line is a series of windows and associated roofs that provide excellent illumination by natural light of the shop floor. This structure is a modification of the more traditional rectangular box type building and received favour among designers and industrialists in the 1900-1945 period particularly for manufacturing and assembly operations. A secondary benefit of such a roof design was the excellent ventilation potential for the structure during periods of warm weather. Several examples of this structure type were found in the review.

The buildings were typically constructed of structural steel columns and steel beams or trusses in turn supporting a timber or steel deck roof. Timber



*Sawtooth Building*

decks were more common and often these structures were fully sprinklered. Bay sizes averaged 7.62m x 9.14m (25 x 30 feet) with somewhat smaller sizes in older buildings. Equipment layout and the production process flowed through the building respecting the bay size element. The buildings were generally clad with concrete block or brick and had generally supplementary wall windows on occasion. The sawtooth windows were found to generally be single pane windows installed at the date of construction with little insulation value. Firms had with increasing frequency filled this window component with other materials to enhance the energy conservation capability of the structure, replacing natural light with artificial light. While walls were generally not insulated, the roofs were partially insulated, often having been upgraded with roofing repairs and the replacement of the sawtooth windows with insulated siding or similar materials.

As employee comfort was a consideration in the manufacturing and assembly environment the buildings were adequately heated by a variety of systems, depending often on the type of structure. Heating sources ranged from oil fired boiler systems to ceiling mounted gas-fired units. The floors were reinforced concrete.

The usage of these buildings for manufacturing generally included a specific shipping and receiving area with below grade truck bays for forklift handling of materials direct from shop floor to trailer.

The office component of such a facility was usually adjacent to the plant but of standard office finish and usually two floors.

The buildings inspected in the study areas were generally of sound construction. Several buildings of this vintage were poorly insulated with efforts being made by current owners to reduce their energy consumption where possible.

## Multiple Storey Buildings

There are a few examples of multi-storey structures in the study areas. In general the buildings are being used for manufacturing, warehousing and distribution functions. Depending on the firm's requirements the height of the building is utilized either for a gravity flow production process or the upper floors are used for storage and warehousing of raw materials and finished products. In general, the firms occupying a multi-storey structure demonstrated an ability to adapt to the building in terms of the production process and general circulation.

Multi-storey buildings were built in the areas between 1890 and 1940 as owner occupied structures. Structures ranged in height from two to five stories and occupied large portions of any given site.

The buildings were typically constructed of structural steel or reinforced concrete columns and beams with reinforced concrete floors. Some of the oldest examples displayed wood structures and floors although these were in the minority. Roof structures were steel, timber or concrete. Several of the roofs had been insulated during routine roof repairs in the last 10 years. Generally the walls were not insulated. Bay size in the multi-storey building was somewhat smaller averaging 5.48m x 6.09m (8 x 20 feet). Several of the buildings were equipped with freight elevators for the movement of materials and goods between production floors. Buildings utilized by the food and beverage industry displayed product movement through the use of conveyors and piping rather than as batch loads on elevators because of the continuous flow of product.

The buildings were clad in concrete block or brick and were in a variety of conditions. Some of the oldest structures showed some wall cracks and general deterioration but nothing of structural significance. Many of the buildings appeared somewhat dowdy as few improvements have been carried out over the years. Standard wall windows were generally evident with some attempt at insulation improvement having been made by window replacement of single pane glass or simply covering existing windows with plastic film. Some windows had security mesh over them to prevent breakage and break in activity and some were completely removed and filled with concrete block. The key lighting source for most of the activities in the building was artificial. Lighting strength appeared to be quite high for manufacturing operations and somewhat lower in warehousing and storage areas.

*Multiple Storey Building*

The heating systems varied according to age and industry needs from central boiler systems to gas fired ceiling mounted units. Generally, employee comfort was of key importance to the manufacturing and food and beverage firms utilizing these structures.

Most of the structures had adequate or good shipping and receiving areas recessed from the public roadway. The normal loading situation included below grade truck bays and the use of forklift trucks. In some cases the staging area for this activity was congested with few options for expansion. Rail spur usage was evidenced in one or two cases and was physically separated from the truck oriented shipping and receiving functions.

Multi-storey buildings appear to have been designed for a variety of industrial activity with heavy machinery loads on upper floors. The buildings were built to reflect this capability and remain structurally sound. In a general sense though, there was an impression that multi-storey users had some circulation and production flow difficulties in these buildings. This can be traced to the larger areas required for the production process in terms of larger machinery, and greater integration between production processes to increase efficiency. Some of the users were considering relocation to one floor structures and others simply acknowledged their limitations with respect to the building. There was one significant exception to this trend where a firm had recently decided to stay in a multi-storey building and with significant alterations to the plant and equipment convert it to a like new facility, including external facade improvements.

## Rectangular Box Type Buildings

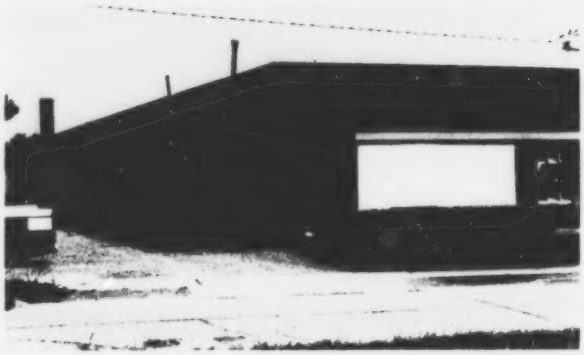
In most study areas the box type structure represented at least 50% of the industrial building inventory. Such structures were the forerunners of the currently popular industrial plants and began construction in the 1930's through to current construction with some modifications. This building form emerged with the increasing availability of structural steel and as the desire for single storey premises increased. While this building form became associated with larger building setbacks and larger parcels of land with room for expansion and employee parking, the examples in the study area vary considerably.

Many of the smaller buildings of this type were constructed of concrete block with steel joists and a timber or steel deck roof. Column free space extended to spans of 10.66m to 12.12m (35 to 40 feet). Insulation was observed in several of the roofs with gas-fired ceiling mounted heating units serving the building. Standard wall windows were either original single pane glass or upgraded double pane glass.

These small buildings were used by automotive related firms such as body shops and garages as well as by small wholesalers, distributors and smaller manufacturers and assemblers. Generally these small buildings did not have specific loading areas and in some areas a concentration of these structures with high site coverages caused congestion. The typical smaller building was 185.8m$^2$ to 929.0m$^2$ (2,000 to 10,000 sq.ft). The level of improvement within the building was usually a function of the profitability of the individual business utilizing the property.

Buildings over 929.0m$^2$ (10,000 sq.ft.) were utilized by larger firms particularly for manufacturing, assembly, warehousing, distribution and wholesale applications. The construction type was similar to the smaller building with steel columns, beams or joists and timber or steel roof decking. Roofs were generally insulted if the roof had been replaced in the last 10 years but walls were generally uninsulated concrete block or brick. Office areas were insulated whereas plant areas were not. Building heights varied from 3.65m (12 feet) to approximately 5.48m (18 feet). Standard wall windows appeared as secondary lighting sources with artificial light displayed in the interior of the structure.

Upgrading of the perimeter windows and building facade was fairly common among this building



*Box Type Building*

type. It is suggested that the reasoning for these improvements is shared between energy conservation concerns and improvements in the work environment for the employee and overall corporate image. Several of the building interiors had been upgraded in terms of painting interesting graphics and improved facilities such as employee lunchrooms, washrooms and first aid stations.

Shipping and receiving areas were adequate to excellent with the trucking requirements and staging areas well laid out. Many firms had upgraded these facilities as volumes of goods handled had increased.

Column free areas (bay size) as large as 7.62m × 9.14m (25 × 30 feet) provided flexibility for equipment layout and production processes. Very few firms mentioned this as a constraint to their operations. Generally the office component of the structure faced the street as a one or two storey structure.

Box type structures were generally structurally sound. The smaller buildings were oriented to automotive users and small distributors and were in a variety of cosmetic conditions from a few derelict buildings to upgraded properties with new facades of fresh paint or metal siding. Larger box structures were structurally sound and in a wide range of conditions. Generally the older buildings were least improved although it appears that improvements depended more on the owner and the financial position of the business than on the actual date of construction. The more modern premises of the 1950's and early 1960's required less upgrading because of the relatively new age. Internal plant conditions appeared to be gaining significance in employers' priorities to improve productivity and some level of employee comfort.

**Older Industrial Areas:**
**Structural Assessment Form**

Name of Firm:

1. Date of Construction _____
   Date of Expansion(s) _____
2. Availability of Drawings
   _____ yes
   _____ no
   _____ partial
3. Type of Structure
   _____ cupola or gable
   _____ barn type
   _____ saw tooth
   _____ multiple storey
   _____ box type
4. Columns
   _____ steel
   _____ reinforced
   _____ timber
5. Beams/Truss
   _____ steel
   _____ reinforced concrete
   _____ timber
6. Roof Type
   _____ steel deck
   _____ timber deck
   _____ reinforced concrete
7. Roof Condition
   _____ sound
   _____ cracked
   _____ uneven
8. Bay Size _____
9. Floor Type
   _____ reinforced concrete
   _____ wood floor
   _____ dirt
10. Floor Condition
    _____ sound
    _____ cracked
    _____ uneven
11. Wall Condition
    _____ sound
    _____ cracked
    _____ uneven
12. Perimeter Cladding
    _____ metal siding
    _____ fiberglass/vinyl siding
    _____ wood siding
    _____ masonry
    _____ other
13. Perimeter Cladding Condition
    _____ satisfactory
    _____ unsatisfactory
14. Building Lighting
    _____ cupola/sawtooth windows
    _____ standard wall windows
    _____ windows boarded up
    artificial light

15. Building Lighting Condition
_____ satisfactory
_____ unsatisfactory

16. Wall Insulation
_____ no
_____ yes

17. Roof Insulation
_____ no
_____ yes

18. Heating System
_____ gas fired
_____ infrared
_____ boiler _____ oil
_____ gas
_____ electric

19. Water Sprinklers
_____ yes
_____ no
_____ partial

20. Storage Yard Type
_____ dirt
_____ gravel
_____ concrete
_____ asphalt

21. Yard Condition
_____ satisfactory
_____ cracked
_____ pot holes
_____ poor drainage

22. Parking Area Type
_____ dirt
_____ gravel
_____ concrete
_____ asphalt

23. Parking Area Condition
_____ satisfactory
_____ cracked
_____ pot holes
_____ poor drainage

24. Parking Capacity
_____ adequate
_____ shortage
_____ surplus

25. Site Circulation
_____ congested
_____ satisfactory

26. Site Utilization
_____ adequate
_____ congested
_____ under utilized

OTHER COMMENTS

_____

_____

_____

_____

# Appendix C

## Marketing Questionnaire

### Introduction

This appendix represents the quantitative and qualitative analysis of interviews which were conducted in six older industrial areas. Although the findings in the main text have been based on the results of the interviews, this section provides a more detailed analysis of each response.

Areas within the cities of St. Catharines, Welland, York, Peterborough, North Bay, and Cambridge were chosen as case municipalities for the study as they were found to be representative of older industrial areas in terms of size, geographic location, municipal organization, age of industrial areas and industrial mix.

The interviews were conducted using a standardized questionnaire (attached). Although each industry surveyed provided information beyond the confines of the questionnaire, the standardized format allowed for comparisons among responses.

### Findings

Question No. 1 asked respondents to specify the type of industry which was conducted at their site. Although in total a variety of industry types were specified, it was of interest to note that answers to this question did not always correspond to the responses to question No. 7 of the survey relating to activities of the firm. In one example an industry stated that it was a distribution firm but listed its activities as manufacturing, warehousing, distribution and office. If the firm was indeed solely engaged in distribution, it should not have listed manufacturing as an activity. It is difficult to determine whether or not manufacturing was indeed an activity of the plant or if so, the degree to which this activity was conducted since responses to questions No. 1 and No. 7 were somewhat contradictory and since floor space by activity was not indicated.

The main finding from question No. 1 and a finding which pervaded the rest of the results was that a variety of industry types have chosen the older industrial areas for the location of their firm. This mix includes wholesalers, autobody repair shops, tool and die firms, food processors, contractors, fabricating firms, waste management companies, trucking establishments, industrial laundry facilities, repair shops, scrapyards and packaging plants. The implication of these findings is therefore that older industrial areas should be viewed as a heterogeneous mix of functions rather than a homogeneous industrial area.

The results of question No. 2 are illustrated in Figure C1. Seventy-one percent of the properties are less than 8,095m². Sixteen percent are between 8,095–20,235m². Only 4 percent are between 20,236–40,470m² while 8 percent are over 40,470 square metres. The mean property size is 12,908m².

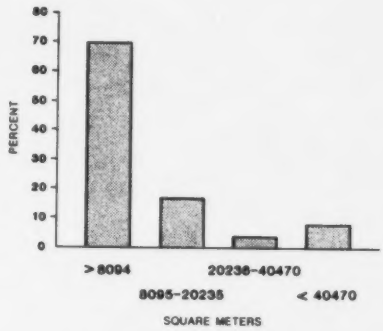



*Figure C1* **Property Size**

The mean building size as reported in question No. 3 is 3,520m² with the lowest reported building size of 124m² and the highest size of 27,870m².

In terms of coverage the highest reported building to property (site) coverage was 132.5 percent and the lowest, 5.36 percent with an average site coverage of 37.4 percent.

Figure C2 illustrates the responses to question No. 4 regarding the number of employees per firm. Thirty-one percent of the industries surveyed reported 6–20 employees. The second largest grouping was 1–5 employees representing twenty-four percent of the responses. The two largest groups, 51–100 employees and 100+ employees accounted for thirteen percent and fifteen percent respectively of those surveyed.

Although the question regarding ownership was posed in question No. 5 of the survey it should be

noted that it was the intention of the study to interview owners as opposed to tenants. The results of this question are therefore biased in favour of owners. In all eighty-two owners were interviewed and 10 tenants for a total of 92 responses.

*Figure C2* **Number of Employees**

The responses to question No. 6 are represented in Figure C3. Forty-five percent of the firms have been established at their present location for over 25 years. The second largest grouping of residency was twenty-five percent in the 11–25 year category. Overall, only nineteen percent of the firms in the older industrial areas have located there within the last 5 years.

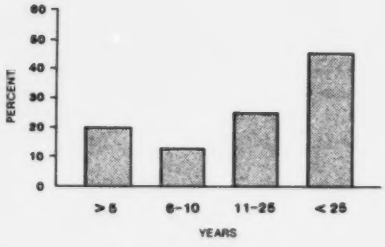



*Figure C3* **Length of Residence**

The activities of the 92 firms were varied. Figure C4 shows the percentage of activities which are conducted in the older industrial areas. Manufacturing activities accounted for less than fifty percent of the total number of activities while warehousing and office functions were conducted in 66 percent and 87 percent of the firms respectively. "Other" functions also showed a high response as 40 percent of the firms listed these activities. These "other" activities include auto repair shops, industrial laundry plants, contracting firms, machine repair shops, commercial and retail facilities. Second storey functions did not show as large a response rate. However, seventeen percent of the respondents did state that office functions were conducted on the second storey and twelve percent stated that warehousing was second storey activity.

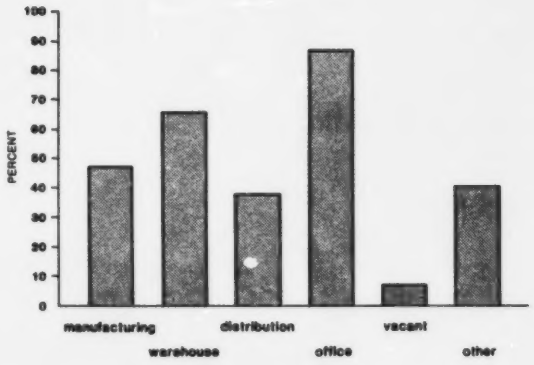



*Figure C4* **Activities**

In terms of mixes of activities within one firm, the responses again were varied. The most common combination of activities were manufacturing, warehousing, and office at 16 percent of the total responses and warehousing, office and "other" activities with a fifteen percent response.

Question No. 8 asked whether the floor area trends of the firm were expanding, contracting or not changing. Figure C5 illustrates that 58 percent of the respondents were not experiencing any change, thirty-three percent were expanding and only 9 percent were contracting their floor area. These results imply that firms in the older industrial areas were stable and in some instances growing. Fifty-eight percent of those industries which have been in their present location for over 25 years reported no change in the floor area while 27 percent stated that their floor area was expanding and only 15 percent stated that they were contracting their floor area.

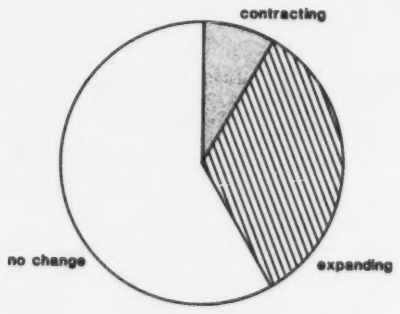



*Figure C5* **Floor Area Trends**

In order to understand the locational advantages of older industrial areas, question No. 9 asked firms to list the reasons for choosing their location and the results are shown in Figure C6. The greatest

reason cited was road transportation – accessibility at 55 percent of the total responses. Since road transportation is accessible in all but peripheral areas, it was felt that this criterion was not as important as indicated. The second highest response was 41 percent for historical locational reasons. Since 45 percent of the industries have been in their present location for over 25 years this reason is justified. The third highest response was 37 percent for market proximity. Clearly the new firms locate in the older industrial areas for the marketing of their goods and to be close to customers. The latter reason is especially important for the more recent firms such as laundry facilities, auto repair shops, mechanical repair firms and commercial-industrial establishments and contractors.

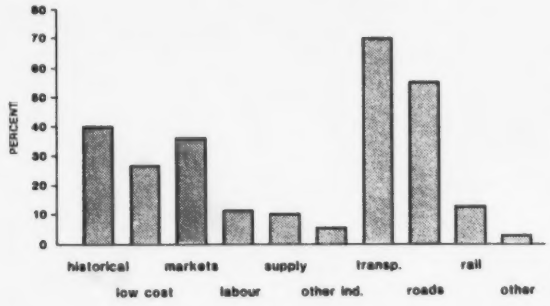



*Figure C6* **Locational Criteria**

In dissaggregated form 30 percent of the new firms (1–5 years) stated that proximity to markets was an important locational criterion while 64 percent of the firms which have been in their present location 6–10 years stated that market proximity was the key locational criterion.

Question No. 10 attempted to understand the disadvantages of locating in an older industrial area. Since older areas are theoretically plagued by a host of disadvantages such as congestion and lack of expansion room it was surprising that the two greatest disadvantages were infrastructure and image at 24 percent and 23 percent of the responses respectively. The results of this question are illustrated in Figure C7.

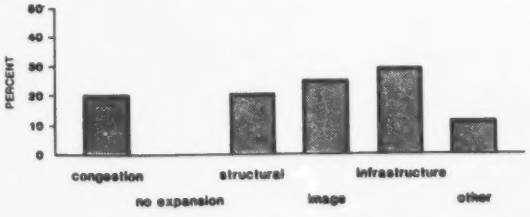



*Figure C7* **Locational Disadvantages**

Question No. 11 attempted to understand the stability of the industries which are located in older industrial areas. The responses are illustrated in Figure C8. As in question No. 8 regarding floor area trends, the highest response regarding future

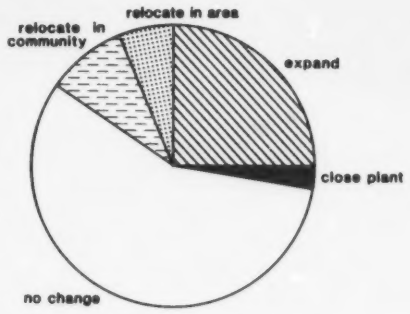



*Figure C8* **Future Intentions**

intentions was "no change" at 58 percent. The second highest response was 25 percent for intention to expand. Clearly the industries which have located in these areas are stable and growing. Even the older firms (25 years +) stated that they have sunk too much fixed capital into their present building and would remain in the area because it would be too costly to relocate.

In terms of industrialists' opinion of redevelopment potential of their sites (question No. 12) an overwhelming 65 percent anticipated continued industrial use. Some firms however were concerned that other uses may encroach upon them and they would be forced to move. Another important response was that 17 percent saw potential for retail use either as a separate activity or as part of the industrial functions presently conducted. The results of this question are illustrated in Figure C9.

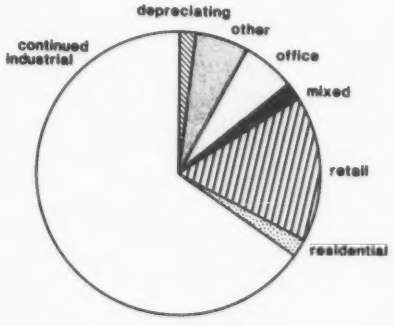



*Figure C9* **Redevelopment Potential**

## Older Industrial Areas: Marketing Questionnaire

Name of Firm:

Address:

Contact - Title:

Telephone Number:

1. Industry Type: _____

2. Size of Property: _____

3. Size of Building(s): _____

4. Current number of employees:
   _____ 0 - 4
   _____ 5 - 19
   _____ 20 - 49
   _____ 50 - 99
   _____ 100 +

5. Owner _____ Tenant _____ .

6. How long in area?
   _____ 5 years
   _____ 6 - 10
   _____ 11 - 25
   _____ over 25

7. What activities in building? (Ground Level)
   _____ manufacturing
   _____ warehouse/storage
   _____ distribution
   _____ office
   _____ vacant
   _____ other

   Note 2nd, 3rd, 4th, floor use:

   _____

   _____

   _____

   _____

8. Floor Area Trends:
   _____ expanding
   _____ contracting
   _____ no change

9. Location - why here?
   _____ historic reasons - established

   _____

   _____ low cost - quantify

   _____

   _____ close to market - ie.

   _____

   _____ close to labour - ie.

   _____

   _____ local suppliers - ie.

   _____

   _____ related support firms - ie.

   _____

_____ transportation facilities

_____ road
_____ rail
_____ other

10. Locational disadvantages:

_____ congestion

_____ no expansion capability

_____ structure problems

_____ image

_____ infrastructure – ie.

_____

_____ other _____

_____

_____ net lease rate – ie.

_____

_____ land acquisition cost – ie.

_____

_____ building acquisition cost – ie.

_____

_____ building renovation cost – ie.

_____

11. Future Intentions:

_____ expand on site

_____ relocate in area

_____ relocate in community

_____ relocate outside community

_____

_____ no change

12. Redevelopment Potential:

_____ continued industrial use

_____ retail

_____ office

_____ residential

_____ mixed use

_____ depreciating site, little potential

_____ other – ie. _____

_____

OTHER COMMENTS:

_____

_____

_____

_____

# Appendix D

## Typical Industrial Real Estate Projects

### Introduction

Revitalization of older industrial districts incorporates both public improvements and private investment initiatives. It is suggested that the issue of viability be based on the ability to utilize, expand and retrofit existing land and buildings and the financial feasibility of this activity.

A number of typical improvements are suggested in the Appendix ranging from modest facade improvements to more complex redevelopments. In each project, the design and financial implications are illustrated. (Note: Costing is in 1985 CDN$)

*Modest Facade Improvements*

### Project 1 - Modest Facade Improvements

Several buildings in older districts are in need of some modest facade upgrading and property maintenance. In some cases these improvements would repair deficient components such as windows, brick work requiring repointing, pavement cracking and so on. In more severe cases, columns or components such as leaking roof systems require replacement.

The illustrated example Figure D1, is a two storey concrete block building that has received little

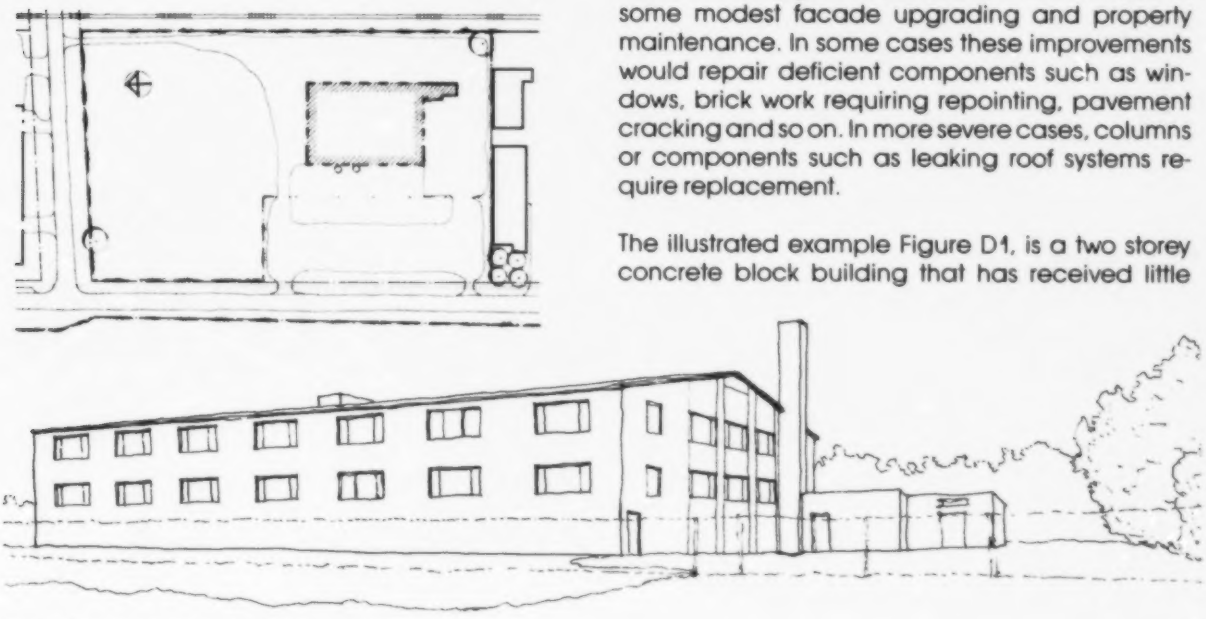


*Figure D1* **Project 1 Existing**

**Preliminary Cost Estimate**

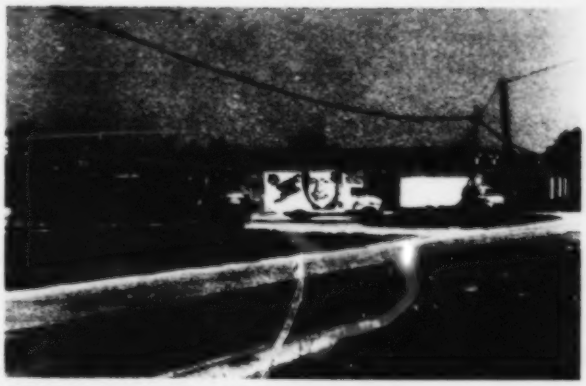
| | |
|---|---|
| Site improvements | $9,800 |
| Landscaping - hard and soft | 3,200 |
| Exterior Cladding including insulation | 63,000 |
| New Windows | 18,000 |
| Corporate Sign | 2,200 |
| Entrance Canopy | 8,100 |
| Total | $104,300 |

building maintenance for an extended period of time. The windows and areas of block immediately below the windows require repair and the facade requires some minimal treatment to improve its appearance.

The recommended solution is a vertical metal siding and upgrading of the building entrance. A sign has been positioned on the chimney of the building. (Figure D2.)

### Project 2 - Building Expansion - User or Developer

Several examples exist throughout older districts where property could be more intensively utilized. In some cases this expansion potential may be restricted by setbacks or parking standards.



*Building Expansion*

### Alternative One

In the illustration, (Figure D3.), a 9,650m² on a 2.87 ha. site consumes only 33% of the site. To increase the use of the site an addition of 8,570m² is designed to be immediately adjacent the building. Adequate parking and loading areas are provided in the expansion and existing building setbacks are respected. Site coverage rises dramatically to 63%.

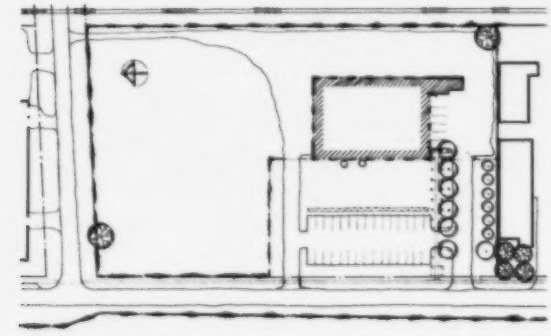


*Figure D2* **Project 1 Proposed**

### Preliminary Cost Estimate

| | | | |
|---|---|---|---|
| Upgrading of industrial building | 9,650m² (104,000 sf) @ $162/m² | = | 1,563,000 |
| Plant expansion | 8,570m² ( 92,000 sf) @ $237/m² | = | 2,031,000 |
| | 18,220m² | | $3,594,000 |

## Alternative Two

Alternatively, a developer could approach the expansion opportunity with small industrial space on the balance of the site. (See Figure D4) The configuration of the building would change for individual access and egress. Adequate parking and loading would be provided.

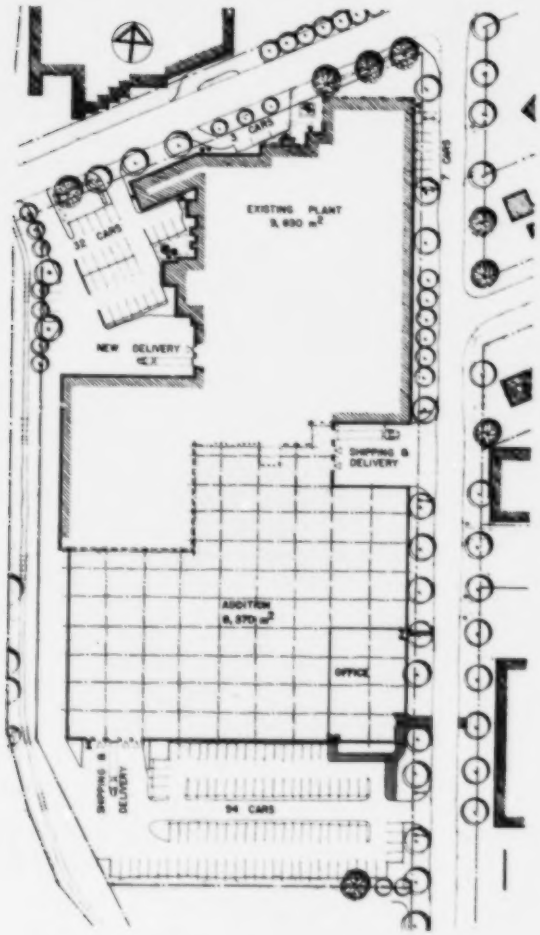



*Figure D3* **Project 2 Alternative One**

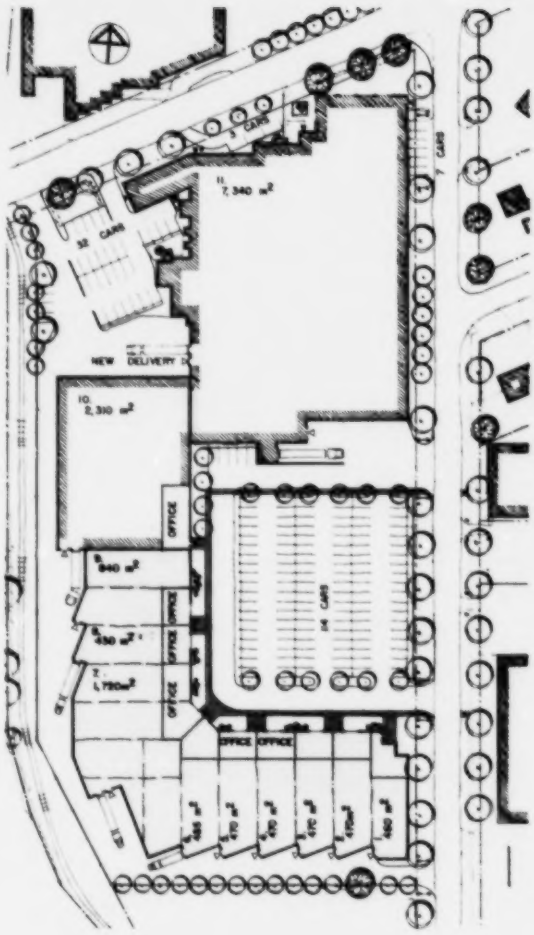



*Figure D4* **Project 2 Alternative Two**

### Building and Site Coverage

| | | | |
|---|---|---|---|
| Total building size | 18,220m² | (196,000 sq.ft.) | 1.822 ha. |
| Lot area | | (7.1 acres) | 2.87 ha. |
| Proposed coverage: | 63% | | |
| Maximum coverage: | 60% | | |
| Existing Coverage: | 33% | | |

**Parking Requirements**

On the basis of 1 employee/70m² (750 sq.ft.) and a requirement to provide .5 spaces per employee.

$$\frac{252 \text{ employees}}{2} = 126$$

required: 126
provided: 136

**Preliminary Cost Estimate**

| | | | | |
|---|---|---|---|---|
| Unit # 1 | 460m² @ | $270.00/m² | | $121,500 |
| 2 | 470 | " | | 126,900 |
| 3 | 470 | " | | 126,900 |
| 4 | 470 | " | | 126,900 |
| 5 | 470 | " | | 126,900 |
| 6 | 470 | " | | 126,900 |
| 7 | 1,720 | " | | 464,400 |
| 8 | 430 | " | | 116,100 |
| 9 | 840 | " | | 226,800 |
| Total New Building | 5,800m² | | Total | $1,563,300 |
| 10 | 2,310m² @ | $162/m² | | 374,200 |
| 11 | 7,340 | " | | 1,189,100 |
| Total Renovation | 9,650m² | | | 1,563,300 |
| Total Area | 15,450m² | | Total | $3,126,600 |

Approx. cost of building shell, construction, upgrading of existing structures and site improvements. (Design fees and project management costs would be extra.)

**Building and Site Coverage**

| | | | |
|---|---|---|---|
| Total building size | 15,450m² | (166,240 sq.ft.) | 1.545 ha. |
| Lot area | 2.87 ha. | (7.1 acres) | 2.87 ha. |
| Existing Coverage: | 33% | | |
| Proposed Coverage: | 53% | | |
| Maximum Coverage: | 60% | | |

**Parking Requirements**

On the basis of 1 employee/70m² (750 sq.ft.) and a requirement to provide .5 spaces per employee.

New multi-tenancy portion (1/500 sq.ft.)

$$\frac{125 \text{ employees}}{2} = 63 \text{ spaces}$$

Existing plant portion (1/750 sq.ft.)

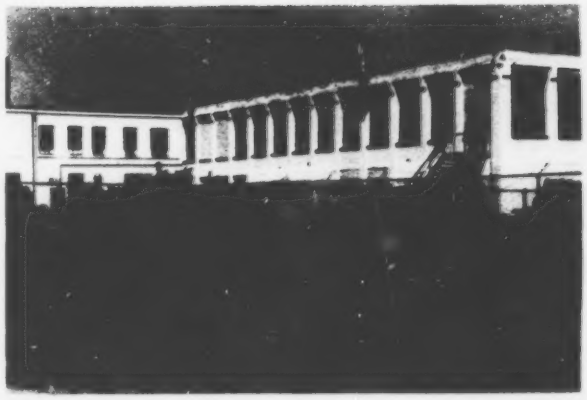
$$\frac{138 \text{ employees}}{2} = 69 \text{ spaces}$$

required: 132 spaces
provided: 153 spaces

## Project 3 – Renovation of Vacant 2nd Floor Space

Vacant industrial space in older districts is often found above the grade level on second or third floors. General industry preference has shifted away from multi-floor production and left these floors vacant. It is generally necessary to renovate the building for tenancy use. Such renovations would address major building systems such as the splitting of mechanical and electrical systems, providing better access to upper floors and general site improvement for loading, circulation and parking for more than one firm.

The example project, Figure D5, subdivides the second floor space, currently not used by the owner into two smaller units with independent access and a shared loading area. The renovation would serve the needs of the owner, either for long term tenancy use or as internal expansion space as required.



*Renovation of Vacant 2nd Floor Space*

### Preliminary Cost Estimate

| | | | | |
|---|---|---|---|---|
| Upgrade of 2nd floor space | Unit 2 | 1,070m² @ $165/m² | = | $176,550 |
| | Unit 3 | 840m² @ $165/m² | = | 138,600 |
| | Delivery corridor | 150m² @ $165/m² | = | 24,750 |
| | Contingency | | = | 5,000 |
| | | | | $344,900 |
| Site improvements | | | | 10,000 |
| Parking improvements | | | | 20,000 |
| | | | | $374,900 |

### Parking Requirements

On the basis of 1 employee/70m² (750 sq.ft.) and a requirement to provide .5 spaces per employee.

| | | |
|---|---|---|
| Upper floor | $\frac{1,910m^2}{70m^2}$ = 27 employees | 14 spaces |
| Main floor | $\frac{2,484m^2}{70m^2}$ = 36 employees | 18 spaces |
| | required: | 32 spaces |
| | provided: | 61 spaces |

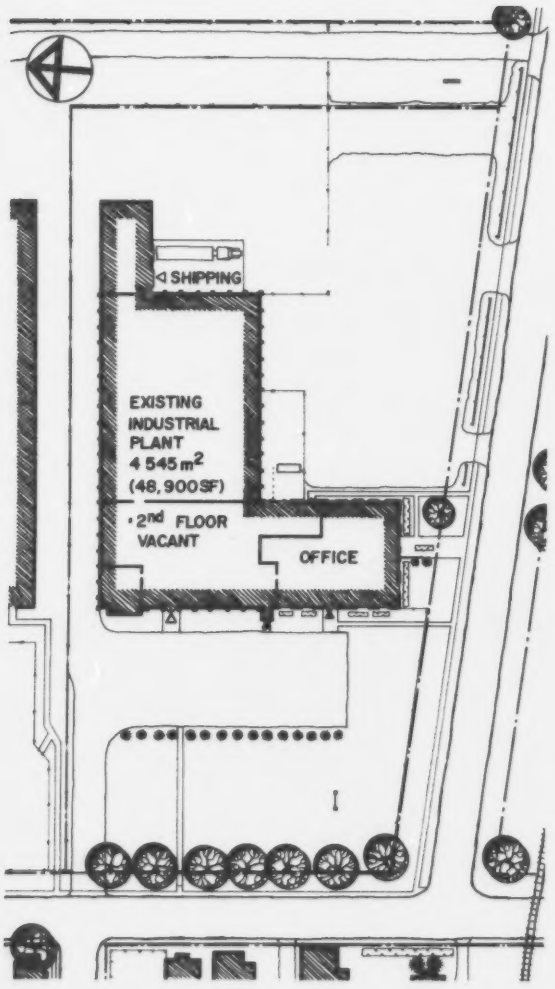
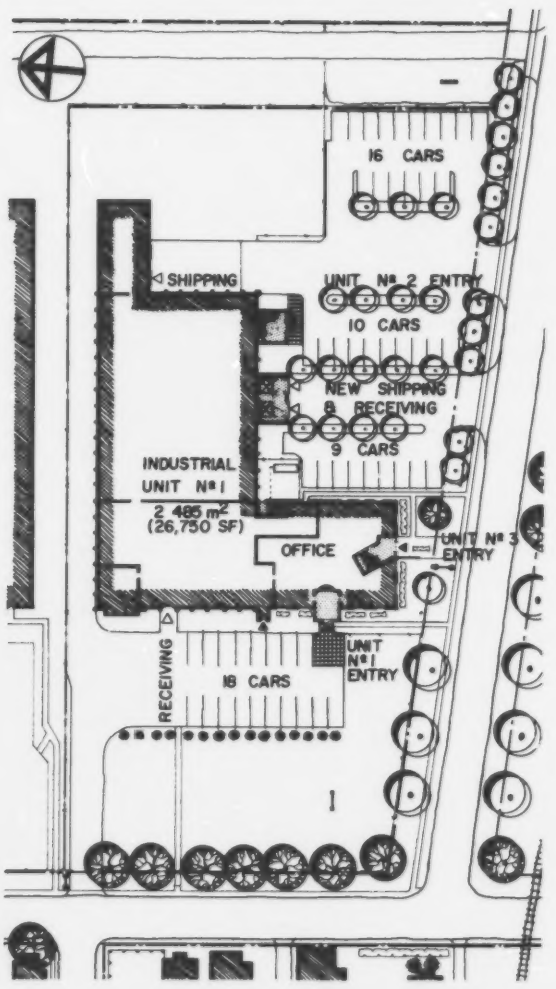
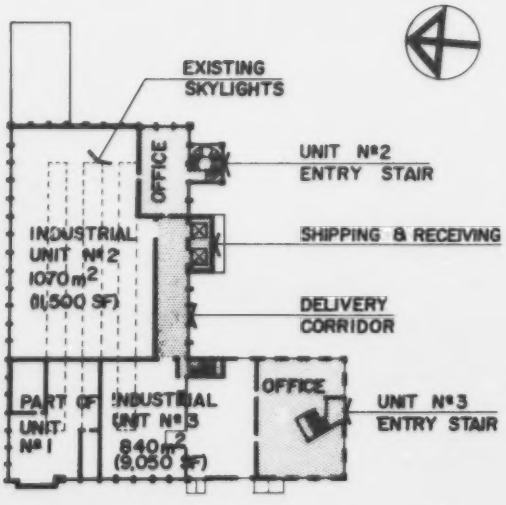



*Figure D5* **Project 3 Existing**




**Project 3 Proposed Ground Fl.**




**Project 3 Proposed Second Fl.**

## Project 4 – Redevelopment of Underutilized or Vacant Lands

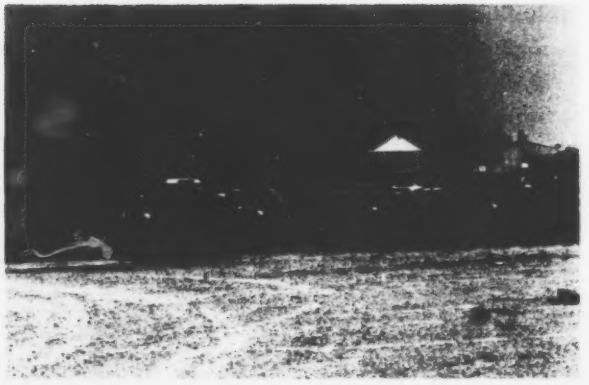
Several opportunities exist for adding building inventory in the older district. These lands are often available from railways, underdeveloped property or surplus lands of large firms.

The illustrated example consumes some 3.6 hectares from a total site of 10 hectares of a mature traditional industry. The surplus land opportunity could be identified by the firm and a developer brought in as an independent or in a joint venture. The firm itself could enter into development as a sole party but few have shown this interest to date.

The marketing of such an opportunity would require market research to identify the various demands in the district. Two alternatives have been suggested.

## Alternative One

This alternative provides for a medium sized stand alone plant, an industrial multi-tenant building, two small service/commercial buildings, a renovated restaurant and 200 parking stalls for the adjacent large firm. (Figure D6).



*Redevelopment of Underutilized or Vacant Lands*

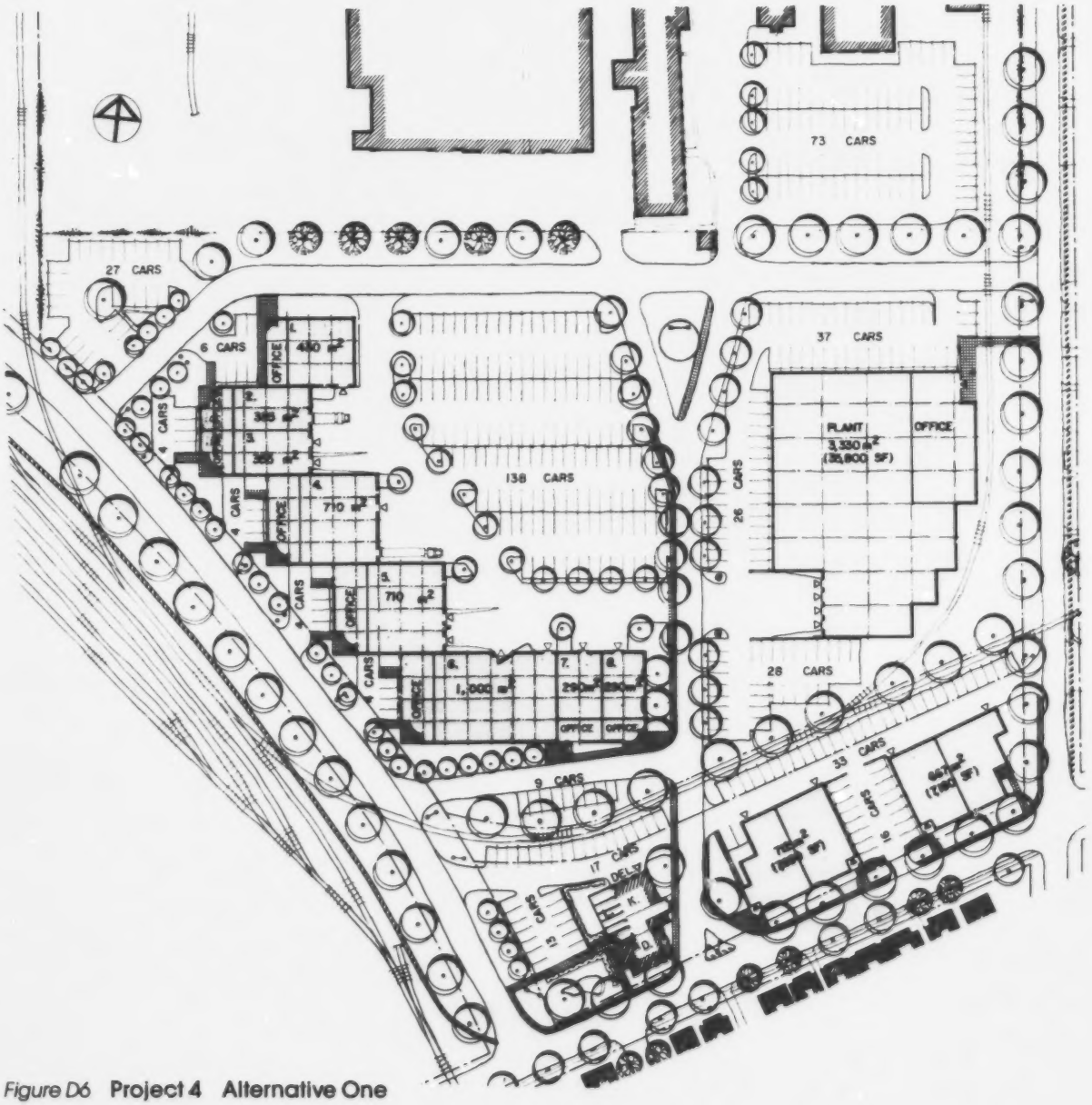



*Figure D6* **Project 4 Alternative One**

**Preliminary Cost Estimate**

| | | | |
|---|---|---|---|
| Industrial Plant | 3,330m² @ $225/m² | = | $ 750,000 |
| Multi-tenant Bldg. | 4,140m² @ $270/m² | = | 1,120,000 |
| Service/Commercial | 712m² @ $280/m² | = | 200,000 |
| | 667m² @ $280/m² | = | 190,000 |
| Restaurant (renovation) | 570m² @ $160/m² | = | 90,000 |
| | 9,419m² (101,350 sf) | | $2,350,000 |

**Parking Requirements**

| | | | |
|---|---|---|---|
| Industrial Plant | 1 space/93m² (1000 sf) | = | 36 spaces |
| Multi-tenancy Bldg. | 1 space/46.5m² (500 sf) | = | 89 " |
| Service/Commercial | 1 space/46.5m² (500 sf) | = | 28 " |
| Restaurant | 150 seats / 4 | = | 38 " |
| Large firm parking requirement | | = | 200 " |
| | | | 391 spaces |

**Building and Site Coverage**

| | | |
|---|---|---|
| Total building size: | 9,419m² (101,350 sf) | 0.94 ha. |
| Lot area: | 3.60 ha. (8.9 acres) | 3.60 ha. |
| Proposed coverage: | 26% | |
| Maximum coverage: | 60% | |
| Existing coverage: | 1.6% | |

## Alternative Two

This alternative provides for a medium sized stand alone plant, an office building, two small service/commercial buildings, a renovated restaurant and 200 parking stalls for the adjacent large firm. (Figure D7). The rationale for developing office space on the site relates to this function previously being accommodated on the site. A return of the office component would be intended for the large firm and not as speculative office space.

**Preliminary Cost Estimate**

| | | | |
|---|---|---|---|
| Industrial Plant | 3,330m² @ $225/m² | = | $ 750,000 |
| Office building | 9,440m² @ $375/m² | = | 3,525,000 |
| Service/Commercial | 712m² @ $280/m² | = | 200,000 |
| | 667m² @ $280/m² | = | 180,000 |
| Restaurant (renovation) | 570m² @ $160/m² | = | 90,000 |
| | 14,679m² (157,950 sf) | | $4,745,000 |

**Parking Requirements**

| | | | |
|---|---|---|---|
| Industrial Plant | 1 space/93m² (1000 sf) | = | 36 spaces |
| Office | 1 space/60m² (650 sf) | = | 157 " |
| Service/Commercial | 1 space/46.5m² (500 sf) | = | 28 " |
| Restaurant | 150 seats / 4 | = | 38 " |
| Large firm parking requirement | | = | 200 " |
| | | | 459 spaces |

**Building and Site Coverage**

| | | | |
|---|---|---|---|
| Total building size (gross floor area): | 14,679m² | (157,950 sf) | 1.47 ha. |
| Lot area: | 3.60 ha. | (8.9 acres) | 3.60 ha. |
| Proposed coverage: | 41% | | |
| Maximum coverage: | 60% | | |
| Existing coverage: | 1.6% | | |

*Figure D7* **Project 4 Alternative Two**

# Appendix E

## Urban Design

### Introduction

Urban design is a process that combines the understanding of the historical development patterns and the built forms of the urban fabric and transforms this to a set of operative ideas within smaller areas. The purpose of urban design then, is to:

> create a contextual identity and positive image for the industrial community and in turn encourage through this qualitative improvement, other quality investments in the district;

and to,

> provide a "vocabulary" on which future design guidelines can be based. These design guidelines will in turn provide specific qualitative direction for future improvements to both public and private space.

### Evaluation

A contextual evaluation of the area relative to the community will establish the relationship between built forms. How is the built form of the downtown area different from that of the older industrial area? Does the older industrial area have an urban streetscape character or is it fragmented in nature?

Such an evaluation could be carried out by preparing overlays on a number of subjects, including:

- block pattern
- lotting pattern
- rail network
- built form
- transportation

Questions such as those posed in the following are useful to interpreting the design context for the area.

**Block Pattern:**
What is the historical rationale for the existing pattern?
What are the block sizes relative to one another?
Do block sizes impact on the building form or transportation system?

**Lotting Pattern:**
Does the pattern vary within the community and the area?
What is the impact on the built form?
What is the potential for subdividing large parcels of land?

**Rail Network:**
How extensive is the network in the area?
Does it tie into downtown or main rail corridor in the community?
What is the level of use?
Does rail movement impact traffic flow?
What is the impact on the lotting pattern such that it creates irregular shaped lots?

**Built Form:**
What is massing of buildings?
Is there uniformity of building types, shapes and forms?
What are the site coverages?
What is the potential for infill?
What are the setback requirements in planning documents?

**Transportation:**
What is the logic of the internal and external road pattern?
Is there a hierarchy of roads?
What are the impacts of the other features on roads?

This contextual evaluation should summarize the unique urban context of a specific industrial area and address the opportunities and constraints of the existing situation in the area. Design solutions in one area may be inappropriate for others based on the urban context.

### Design Guidelines

To most effectively design and focus the image and identify improvements in an area requires urban design guidelines. These guidelines should principally address lands within the public realm – that is lands perceived as public and semi-public spaces. This includes areas such as:

- public road right-of-ways

- railways and spur lines
- sidewalks and parks
- unfenced front yards and parking areas
- sidewalks from the street to the building.

Generally, the design guidelines should address such matters as signage, landscaping, lighting, street furniture and structures. The following checklist includes the elements likely of concern in an older industrial area.

## Design Guideline Checklist

**Signage:**

- general business signs
- street numbers/municipal address
- street signs – name
  - traffic signs
  - parking signs
- area identification

**Landscaping:**

- definition of edges by hard and soft landscape materials
- tree planting
- shrub screenings
- feature items at business directory, or in passive open space.

**Street Furniture:**

- nodes of activity i.e. transit shelter
  litter containers
  benches
  newspaper stands
- bollards
- local business directory

**Structures:**

- gates (entry to district or specific site)
- fencing
- retaining walls
- flag poles

Urban design guidelines should be applied to both public and private improvements in the area. Public space improvements can incorporate many of the design tools already listed. Through site plan control the guidelines can be applied to critical elements on private lands as well.

## Site Plan Control

Developers are keenly aware of these elements in the developing and marketing of new industrial parks. Generally most parks have some elements of urban design incorporated into the development including, architectural control, minimum landscaping standards and building setbacks to enhance the image of the park. In a competitive industrial land market, new developments market these urban design elements as features. Such guidelines or controls in effect offer an investment security to firms who have a foreknowledge about their industrial neighbours.

Within the older industrial areas, such foreknowledge is available simply by viewing the existing conditions. This however does not address the future intentions of adjacent business. Investment security rests solely on the interpretation of existing official plan policies and zoning by-laws.

The gap between new industrial parks and the older industrial areas continues to widen in the context of identity and image. Image oriented improvements are a solid but secondary priority for an overall municipal improvement.

## Acknowledgements

Older Industrial Areas: Planning for Revitalization was prepared by:

Research and Special Projects Branch

**Bill Mackay**, Director
**Louis Spittal**, Manager
**David Burnham**, Economic and Social Planner
**Mike Gobelian**, Senior Graphic Designer
**Heather Bell**, Research Planner
and Inducon Consultants of Canada Limited,
in association with William D. Hurst, Architect.

Special recognition and thanks is given to the consultants **Mr. Brian Moss** and **Mr. Levente Denko** for their assistance on this project.

And a very special thanks to all of the industrial property owners and public officials in the Cities of Cambridge, North Bay, Peterborough, St. Catharines, Welland and York who gave willingly of their time to assist us in the preparation of this report.

**Most Recent Publications Available from Research and Special Projects Branch**

**Planned Retirement Communities**
July 1986

**Commercial Parking: A Planner's Handbook**
April 1986

**MAPS: A Map Index for Community Planning in Ontario**
February 1986

**Financial Impact Analysis**
December 1985

**Planning and Design for Commercial Facade Improvements**
October 1985

**An Introduction to Community Planning**
August 1985

**Computers as a Planning Tool**
August 1985

**A Planner's Reference to Legislation, Provincial Policies and Guidelines**
Updated June 1985

**Planning and Design for Commercial Area Improvements**
March 1985

**Towards Community Planning for an Aging Society**
Reprinted 1985

**Downtown Management: The State of the Art in Ontario**
February 1985
(complement to the following report)

**Towards Excellence in Downtown Management**
December 1983

**Land Use Planning for Energy Conservation**
October 1984

**The Re-use of Public Buildings**
September 1984

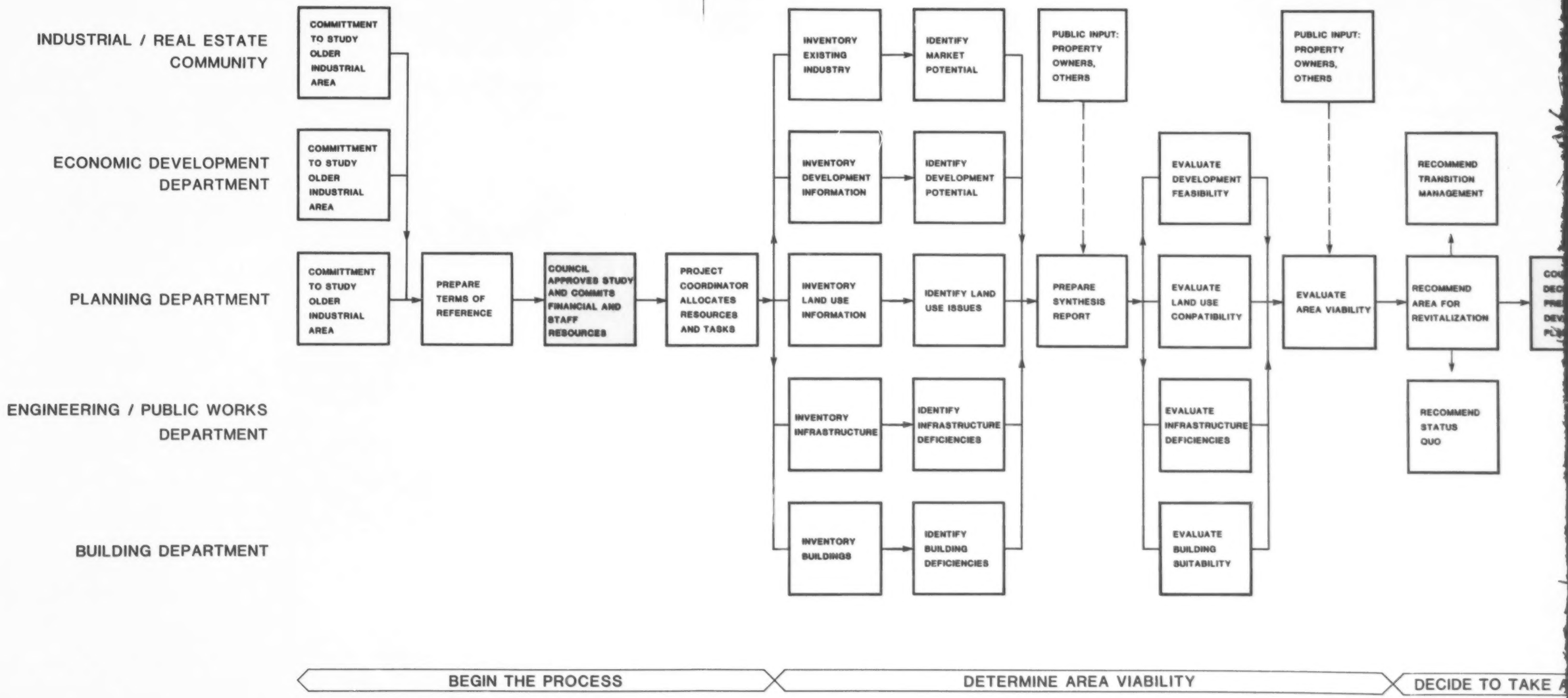
**Guidelines for Recreational Vehicle Campgrounds**
September 1984

**Handbook for Energy Efficient Subdivision Planning Book 3 Design Implications**
September 1984

Research and Special Projects Branch
Ministry of Municipal Affairs
777 Bay St.
13th Floor
Toronto, Ontario
M5G 2E5

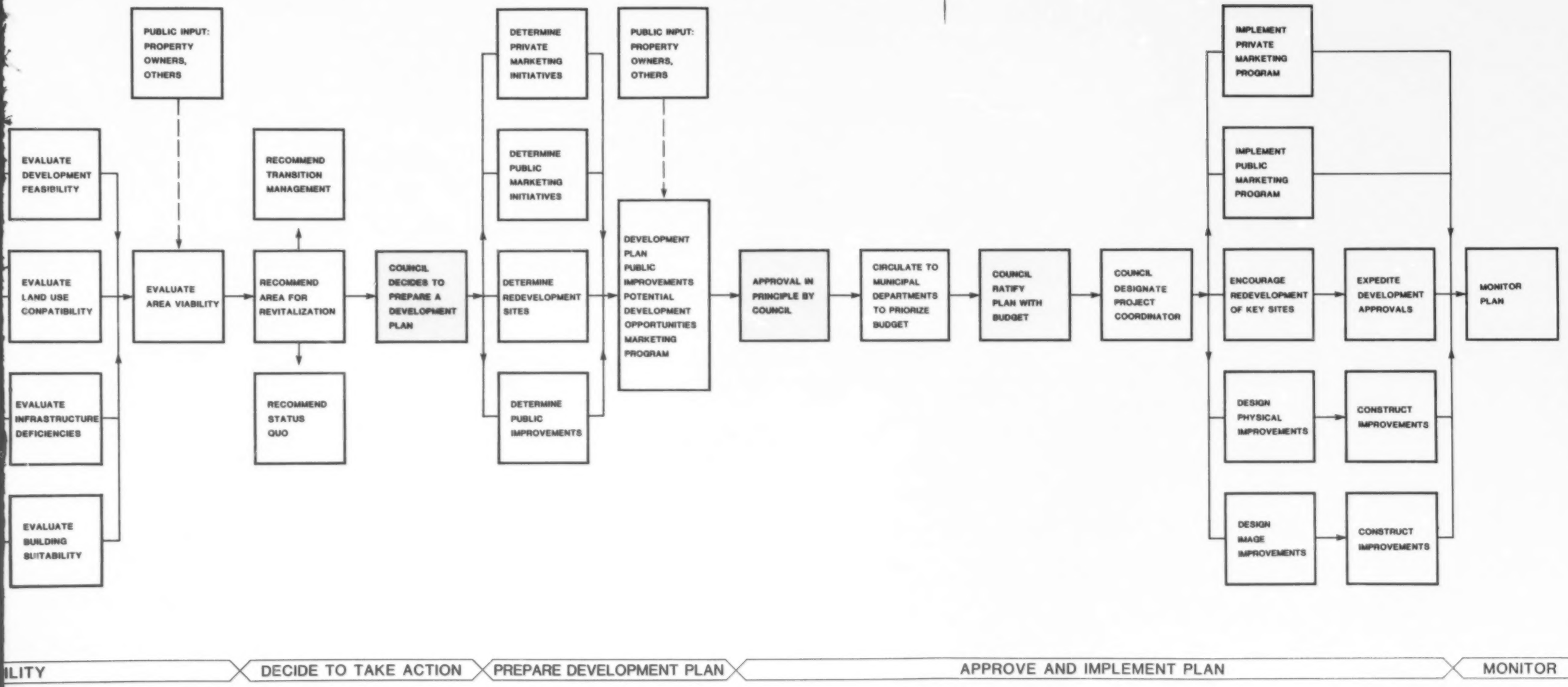
Telephone: 585-6244

# Detailed Planning and Implementation



# Planning and Implementation Process Industrial Revitalization

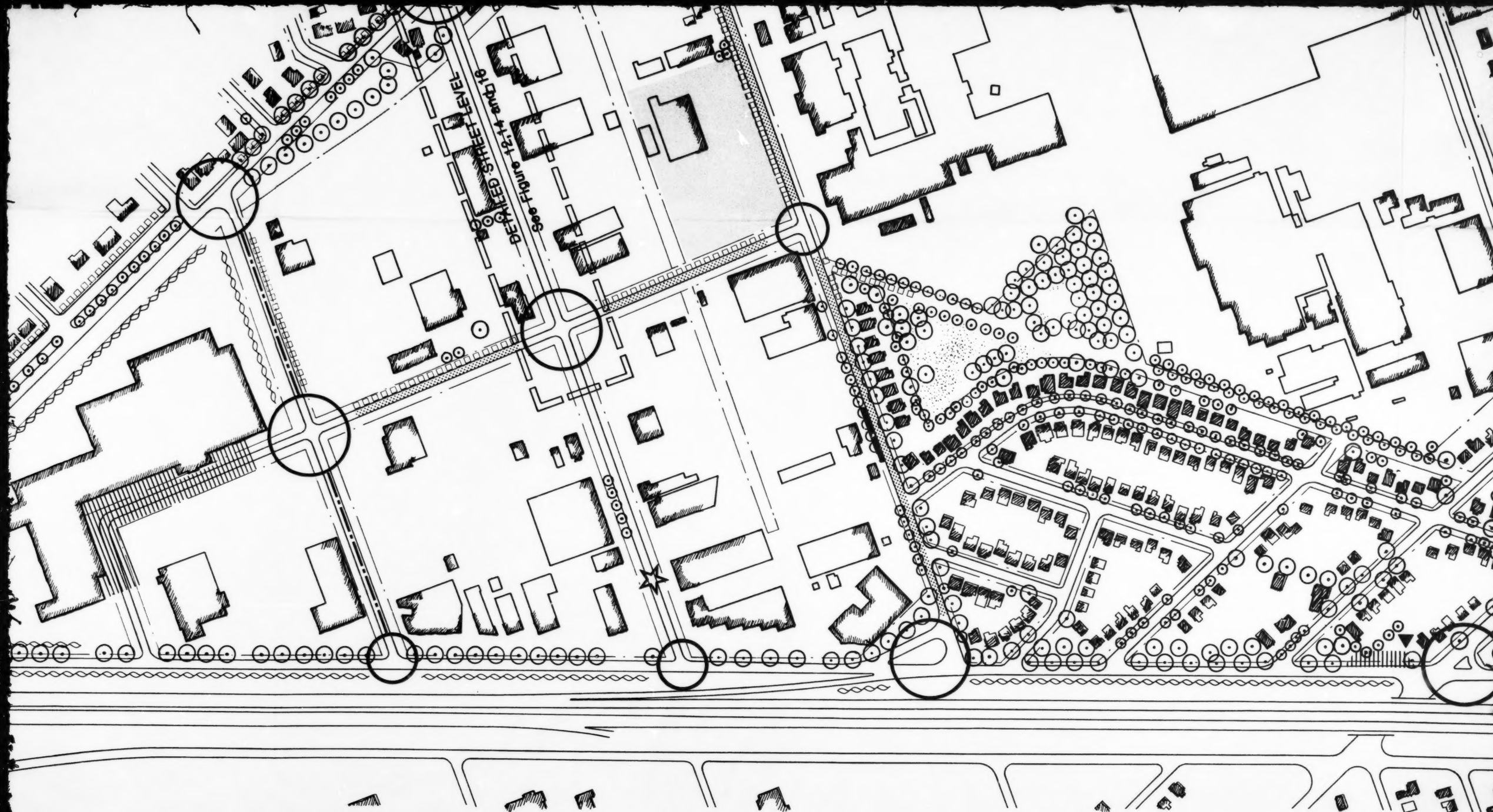
*Figure 2*



Development Areas

Additional Parking

Business Directory


DETAILED STREET LEVEL
See Figure 12-14 and 18

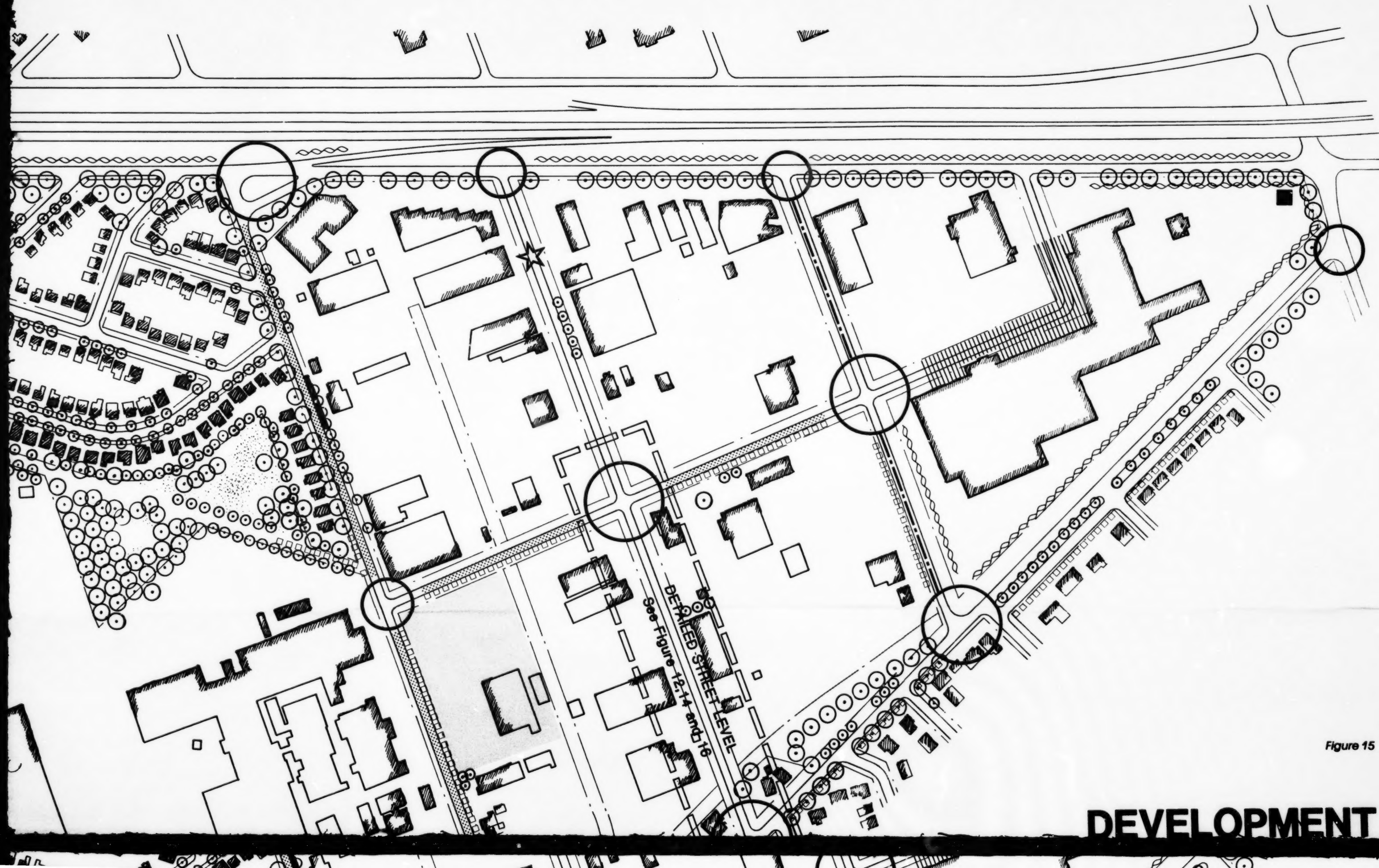
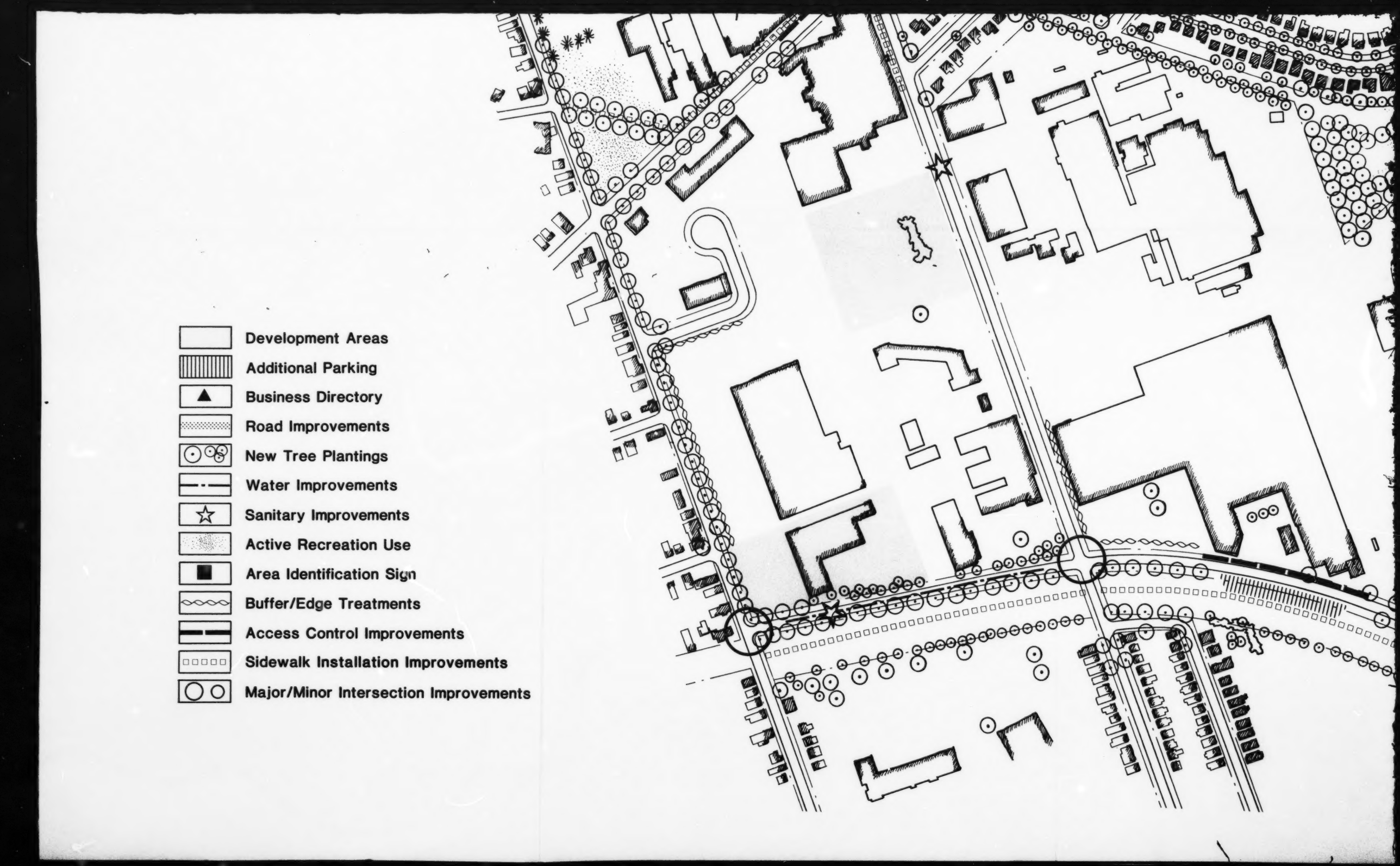



Figure 15

# DEVELOPMENT


Development Areas
Additional Parking
Business Directory
Road Improvements
New Tree Plantings
Water Improvements
Sanitary Improvements
Active Recreation Use
Area Identification Sign
Buffer/Edge Treatments
Access Control Improvements
Sidewalk Installation Improvements
Major/Minor Intersection Improvements

DETAILED STREET LEVEL

See Figure 12.14 and 16

THE

0

Scale in M

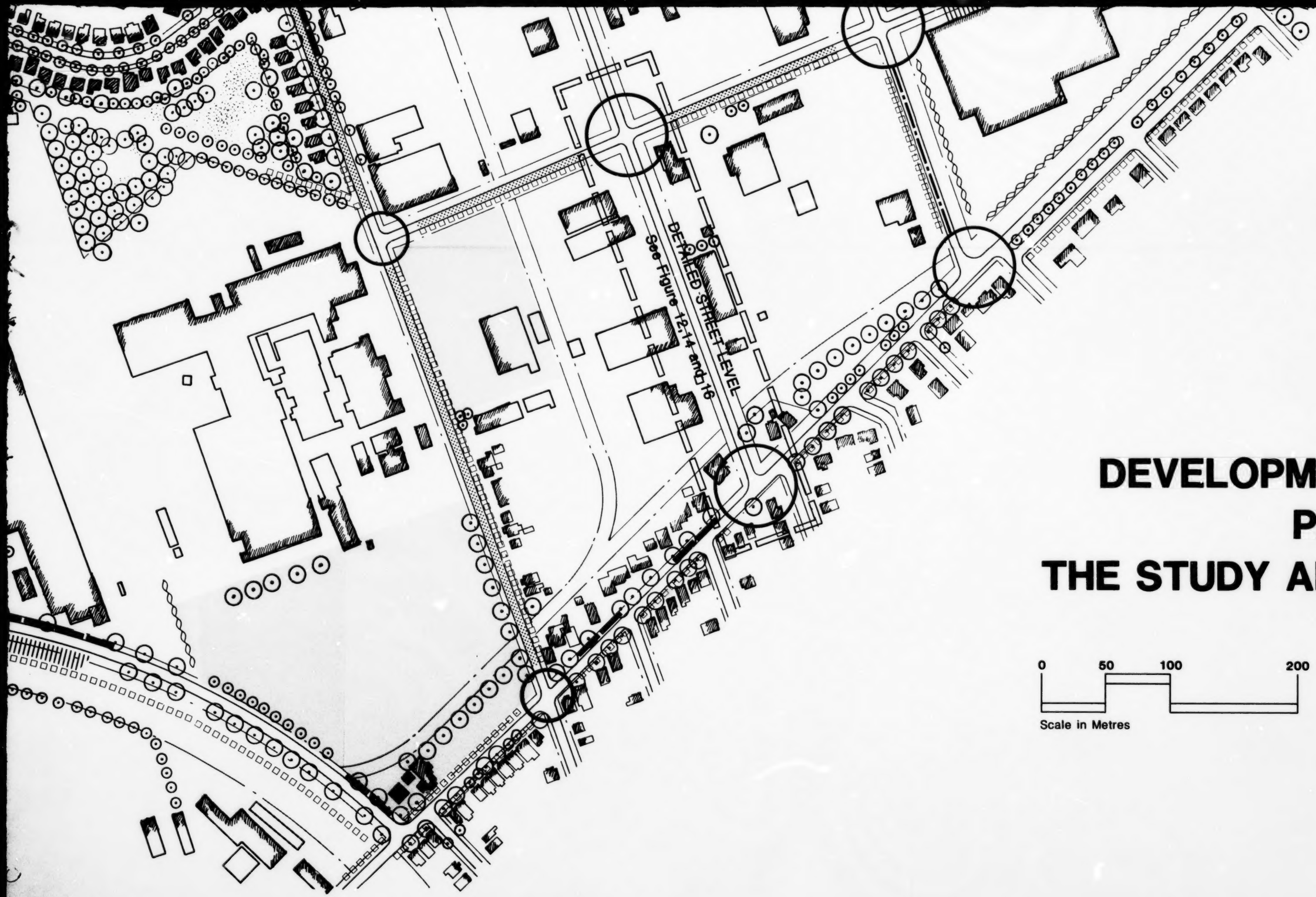



*Figure 15*

# DEVELOPMENT PLAN
# THE STUDY AREA

0 50 100 200

Scale in Metres